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Editor's Table.

Through the courtesy of the Rev. R. H. Peel, Secretary of the "British Bee-Keepers' Association," we have received the Premium List of "The Royal Agricultural Society of England." The London Exhibition will be held from Monday, June 30, to July 7. This is one of the principal Agricultural Fairs of England, H. R. H., the Prince of Wales, being President of the Society. Prizes of £25 sterling are offered for bees, hives and honey. These prizes will no doubt result in a good display.

Mr. Fred Huntley, of Webster City, Iowa, has sent us a bee-feeder, which he has made in the shape of a shallow frame, $1\frac{1}{2}$ inches wide, $2\frac{1}{4}$ inches deep, and as long as the hive requires, to hang like an ordinary frame in the hive. It is hollow, and has thick factory-cloth fastened over the bottom, through which the feed is drawn down by the bees. It is practically the same as the Dunham feeder, but is made of wood instead of tin. It has a cork-hole in the top for pouring in the feed.

Mr. E. H. Wynkoop, Catskill, N. Y., has sent us a section for surplus which he calls the Gilbert Section. He says it is patented by a Mr. Gilbert of that town. It is similar to the one made by Lewis & Parks, though not nearly as nicely made, and is but a trifle thicker than the ordinary berry-box material. The corners are gouged out and then it is bent to place. Dr. Southard, of Kalamazoo, Mich., has used such for sections for years. Mr. Wynkoop has made arrangements to make and sell these sections. They can be produced cheaply, but we prefer something having a little more strength for comb honey.



☞ Separators must be used large enough to come within one-half inch from the top and bottom of the sections used, or they fail to accomplish the object for which they are used, viz: to get the combs built so straight that they will not interfere with one another when the sections are placed in crates. Many mistakes were made last year, in this particular; some placing them clear to the top, and others down to the bottom, and the combs were extended by the bees beyond the separators, making bad work for packing in crates. The result was leaky packages, a disgusting state of things for the retailer, and a loss to the producer. It will pay to be careful in producing, so that none of these things may happen to disgust those who handle honey.

☞ A correspondent inquires if we advise the use of the new flat-bottomed and very thin foundation in surplus boxes. We have received samples of it that are *thin* enough for any thing, and more *beautiful* to the eye, even, than it is thin; but before we advise its use in surplus boxes we shall await full experiments which we shall make this season, as well as those which will be made by many apiarists all over the country. If it is a success, the BEE JOURNAL will with pleasure endorse it; but we cannot afford to tamper, even in the slightest degree, with such an important thing as the demand for, and consumption of, honey in the comb. For the present the BEE JOURNAL advises caution and experiments only.

☞ "The Bee-keepers' Exchange," for January has put in an appearance. It is published at Canajoharie, N. Y., by Mr. J. H. Nellis. It contains many interesting articles, and comprises 24 pages. The printing is fairly done, and though *late* in making its appearance, it is intended to catch up, as rapidly as circumstances will allow.

☞ "Shall we use the sections that are nailed or those dovetailed?" is a question propounded to THE BEE JOURNAL. We much prefer those nailed; the nails add to the strength for shipping, while the dovetailing is a point of weakness, instead of strength. The comb being the only thing to hold the latter in shape, the sections cannot be as strong as those nailed.

☞ There are no changes in the Honey Markets—prices are low, and prospects are for a continuance.

MAINE.—Prof. C. H. Fernald was appointed Vice President for the State of Maine, at the late National Convention. He was in Europe at that time, and now informs us that he will not be able to attend to the duties, as will be seen by the following letter:

Maine State College, Orono, Mar. 18, 1879.

THOMAS G. NEWMAN, Esq., Dear Sir:—Your card has been received. It will be quite impossible for me to attend to the interests of the *Bee-ists* of Maine in the capacity mentioned, but if there should be an association formed and a show of honey exhibited, possibly I could give an address, if desired by our people.

I am, very truly yours,

C. H. FERNALD.

I regret that Prof. Fernald will be unable to attend to the duties devolving on the Vice President for Maine. As it is time for something to be done in getting the preliminary arrangements made for a Honey Show. I have appointed Mr. W. H. Green, of Parkman, Maine, to fill the vacancy, and hope he will succeed in making the necessary arrangements for a creditable Honey Show during the coming season.

THOMAS G. NEWMAN, Pres.

☞ The "Western Honey Bee" is the name of a new periodical issued at Lebanon, Mo., containing 10 pages of reading matter. The articles are somewhat stale, but uncredited; this is probably an oversight which will be remedied in future numbers. It is published at the *Leader* office, but the printing is by no means a credit to the art. It is edited by Mr. E. M. Harrison.

STRANGE.—Did any one ever hear of glass being decomposed by containing honey? We confess it seems rather a strange thought. Is there not some mistake about it? Here is what Mr. Edwards of Skaneateles, N. Y., says about it:

One of my customers for extracted honey told me this week that the fruit can that she put her honey into, was entirely spoiled by the honey decomposing the glass, so much so, that she could put a knife through the glass. The appearance of the glass was not changed. Another of my customers has been trouble in the same way. The honey was *pure*. We have not noticed any thing out of the way with the cans containing our own honey. Can you tell what the matter was, and what consumers can place honey in to keep? Out of 36 colonies placed on winter stands (out doors) I have lost none yet, although some are weak.

W.M. R. EDWARDS.



Permanent International Exhibition.

The following letter concerning exhibition facilities will explain itself. Those who wish to take advantage of its free space, should communicate with Mr. H. J. Smith :

PHILADELPHIA, Pa., Feb. 26, 1879.

EDITOR AMERICAN BEE JOURNAL:—With the purpose of practically illustrating the methods of bee-keeping and the preparation, &c., of honey, as well as the various hives and mechanical appliances in use in this industry, we offer space and facilities, without charge, to parties desiring to present their inventions to the public, in this, the old Main Building of the Centennial.

Besides presenting peculiar attractions as a bazaar for the exposition and sale of goods, amusements and entertainments, and fete days bring a large attendance here (297,000 last year), while the educational features of the display, constitute it a most important adjunct of our schools.

In a letter received from one of the U. S. Centennial Commissioners this month, he says : "While the number of exhibits is not so great as that which were gathered in 1876, yet the concentration of the most characteristic objects of the World's Fair into your one 20 acre building really affords equal delight with greater facility of examination. So complete is the collection you now have there, that it is a question whether the Permanent Exhibition is not more desirable as a school of objects than the vaster collection of three years ago ; while it constitutes for the new generation, already come upon the stage, an inexhaustible storehouse of instruction and pleasure." Another Commissioner writes : "My grandson shall be sent to Philadelphia to be educated, solely that he may have the advantages of such practical course of education as this exhibition and this alone affords."

The increasing attractiveness of this exhibition is illustrated by recent applications for space, of which I will only mention two that were made to-day. Space and power asked for, to introduce 200 Wheeler & Wilson sewing machines, to be put to work on fine shirtings, coarse woolens, saddlery and shoes. Three thousand square feet were also asked for to establish permanently the culture of silk worms and to teach the manipulation of the cocoons in obtaining the raw silk.

Yours respectfully,
H. J. SMITH, Assistant to the Pres't.

Mr. Paul L. Viallon, Bayou Goula, La., has bought the apiary of Mr. Wm. H. Ware, consisting of 275 colonies of Italian bees. He now has over 450 colonies.

The Convention of the North-eastern Bee-keepers' Association was held at Syracuse, during the past month. It was quite an interesting meeting. The minutes were received too late for this issue. They will appear in full in the next JOURNAL.

RAG-BURNING TUBE FOR SMOKERS.—Mr. Bingham has made another improvement for smokers, where rags are used. It consists of a tin tube with two bent sides into which rags are placed. This tube of rags is to be lighted at the bottom and inserted in the fire tube of a smoker, and after the fire is burning well, the smoker may be laid down and the fire will keep several hours. We have tried it, and find that it works well.

AGENTS.—We learn that a traveling agent has been receiving subscriptions for the BEE JOURNAL and signing our names to receipts given for such money. This is a fraud. We have no travelling agents, and none are *authorized* by us to take subscriptions and sign our name. It is simply a forgery. We cannot too strongly enforce this caution—Never pay money to unknown or irresponsible persons.

A beginner inquires about the Poggendorf hive, and whether, it will do what is claimed for it. It is stated that each colony in the hive will give 1500 lbs. of honey and throw off swarms of from 100,000 to 200,000 bees. The hive is 5 stories high and each story contains about as much room as a two-story Langstroth hive. So the whole hive is a house of about the capacity of 10 ordinary one-story Langstroth hives. But no one need be deceived by preposterous stories told by the agents of such a hive. It only requires a moment's thought and reason to get at the true state of affairs.

SMOKER No. 4.—Mr. H. Scovell has produced smoker number 4, and sent it to our Museum. In it, he has placed the joint on the top instead of at the end of the bellows. This makes the upper part of the bellows work, instead of the lower, and therefore the tube containing the fire and smoke is all the time "on the move" instead of being steady, like the Quinby and Bingham smokers. We fear that the valve at the base of the small tube will clog up, after some use. At all events, Mr. S. should have credit for persistence. This is his fourth trial, and with the exception of the first one it is the best—the others being of no use whatever.

Where bank bills are not at hand to send to this office—send Postage Stamps, either of *one, two or three cent* denomination.



Thou Shalt not Adulterate.

So general, so persistent and so demoralizing have adulterations become, that a stringent law against all such is demanded alike in the interests of common humanity, common honesty and common healthfulness.

The Chicago *Tribune* of Feb. 23, contains an article calling upon the Mayor and City Council to "appoint competent and honest persons to act as detectives of the adulterated groceries and provisions, sold now by almost all the retail grocers. The poorer class of citizens are being actually poisoned, —slowly but certainly,—the flour, the sugar, the coffee, the tea, the milk, the butter—almost everything sold to them in the shape of an edible—is adulterated by poisonous or injurious substances." * * * "Honest and faithful as well as competent men should be immediately appointed as detectives, and sellers of adulterated food should be punished by fine and imprisonment, their licenses revoked, and poisoned goods destroyed."

It cannot be denied that these are facts which demand the attention of every citizen.

In answer to our demand for honest production of honey and a law against the adulteration of it—an Eastern writer on what he is pleased to call "the coming war," makes fun of the idea, and cites the oleomargarine butter-fraud as a sample of the good done by *fraudulent imitations*. He says that he has a friend who is making twenty tons of this vile trash (imitation butter) per day, and that he could sell 40 tons per day if he could only manufacture that much. This writer then endorses a prediction concerning its "future," viz: "that within a year every commission house in New York will open their doors to receive it, place it by the side of the pure article, and advocate its sale, *because*, forsooth, they can make a better profit on its sale!"

He then defiantly alludes to glucose honey, and says that we may substitute the words glucose honey in the place of oleomargarine and the results will be similar!! Any one should *blush* to make such an allusion, much more to be so base as to *predict* such a result.

He then defiantly enquires: "What are you going to do about it?"—adding, with a sneer at the action of the National Convention against adulteration, "glucose honey will be cheap and in great demand," though "made by the sinners in the wilderness"—"outside of the National Convention!"

Well does he know, however, that if the counterfeit stuff were labeled "Glucose," instead of "Honey," that it would find no sale, for that representation alone finds it a market!

Oleomargarine, too, would find no buyers were it not for the fact that in *appearance and taste*, it resembles the genuine butter. "The better the counterfeit the more dangerous the fraud!"

Were there a law compelling the manufacturers of counterfeit butter to stamp it "Oleomargarine," and the fraudulent-honey men to label their product "Glucose"—how long would it be before "the sinners in the wilderness" would be obliged to adopt some new fraud or—if it be possible—to become honest men!

Dr. R. U. Piper, a noted analytical chemist of this city, has prepared an illustrated article descriptive of the butter fraud, from which we select the following, by permission of the author:

To sum up the whole matter, spores or eggs of living organisms, and sometimes



Pure Butter, magnified 564 diameters, 318,006 times.

these organisms themselves, some of them known to be inimical to the human system, may be introduced into it through oleomargarine, as we find this substance contains in all cases fragments of animal tissue; that moreover that if this tissue is perfectly healthy in the first instance and does not contain these spores or organisms, it is like all other animal flesh when dead—sure, sooner or later, to pass into the putrefactive process when exposed to the ordinary conditions of moisture and warmth; and we have already seen how dangerous such putrifying meat may become to the human economy.

That good butter has none of these organisms nor indeed can the very worst article of

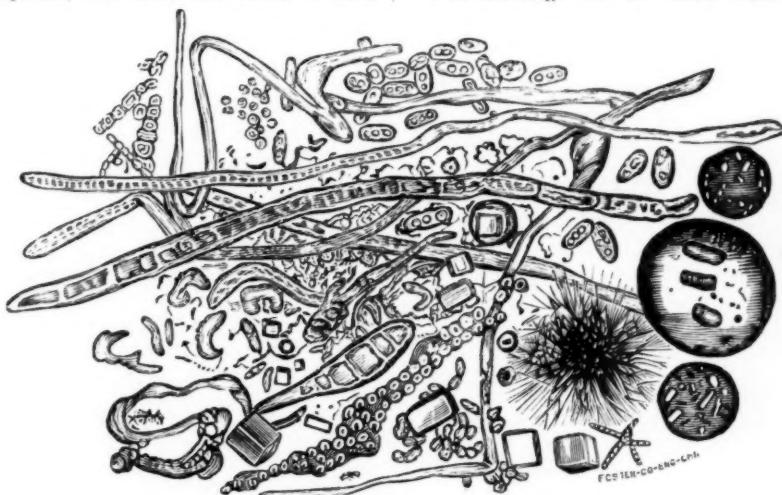
the kind carry in it the eggs of the tape worm or trachinæ, which oleomargarine is very liable to do in the fragments of animal tissue constantly being found in it.

Mr. Mitchael's tells us that "there can be no doubt that fats and grease of every description are used to make oleomargarine, because all the caul fat of oxen brought to New York city in a week would not be sufficient for one manufactory for four days, and there are seven oleomargarine manufactories in the city." Thus it will be seen that every variety of vile grease is used in this compound. A recent foreign scientific authority says that such grease used in soap is often found to be dangerous. Is it safe then to take such substances into the human stomach?

As it regards the effect this manufacture may have on the farmers, the producers of the legitimate article, it is hardly necessary for me to speak. If, as is stated, a single manufactory in New York is producing 100,000 pounds a day of the unwholesome compound, and there are seven of these

shown himself specially anxious to furnish his customers with a good and pure article of butter. This illustration is made up of drawings from several examinations of the specimen mentioned. When placed on the slide in the first place the shreds of animal tissue, salt and fat crystals and spores were seen, and also a peculiar form which I have frequently met with in foul water. The other objects, many of which were active living forms, together with the fungi, were found after the material had been boiled in water as before described, and also after it had been dissolved in sulphuric ether. As I have said in another place, many of these forms are such as are present in all putrifying animal matter, while others are perhaps the bacteria of special diseases, or the strange silent workers whose office it may perchance be to prepare the system for the accession of such cruel maladies, for illustration, as we are told by the authorities resulted in England from eating the flesh of animals afflicted with the "cattle disease."

The drawings are all made with the



Oleomargarine, magnified 564 diameters, 318,096 areas or times.

concerns in that city, to say nothing of others in different localities, how long will it take to drive genuine butter out of the market, especially if as is claimed, the bogus stuff can be so scented and flavored as to prevent its being distinguished by the taste or by other means than a scientific examination?

The following are explanations of the illustrations which are herewith published:

Illustration 1.—Geniune clean butter as seen under the microscope. The circular globules are composed of butter fats. The prismatic and cubical forms represent salt crystals. Sometimes the butter fats present irregular or oval outlines.

Illustration 2.—This drawing was made from a specimen sent me for examination by the keeper of a respectable eating house in this city. I have made a number of like examinations for this gentleman, who has

utmost care under the camera lucida, and are faithful transcripts of the objects represented.

R. U. PIPER.

The foregoing shows how "the sinners in the wilderness" have been sacrificing the health and happiness of men, women and children—simply for the ill-gotten gain derived from the sale of a fraudulent article which scatters disease broadcast! Such mercenary "sinners" richly deserve that execration which all honest men will bestow upon them, as well as do their "companions in iniquity," who, "for filthy lucre's sake," will adulterate honey with glucose or tempt their bees to practice a like fraud by feeding them upon that vile trash, allowing them to



store the stuff in their surplus receptacles! A stringent law to protect the honest as well as to punish the dishonest is a public necessity. If the present Congress should fail in their duty, by neglecting to provide such a statute, then let every honest voter exact a pledge of candidates to favor such a measure, before giving them their votes at the coming election.

Public Honesty needs it!

Public Morals require it!

Public Health demands it.

And of necessity such a law ought to be enacted and strictly enforced!

Machine for fastening Starters.

We have received from Mr. W. D. Parker his machine for fastening foundation starters in sections. It is a neat and handy device and will work nicely. The machine may be well understood by the accompanying illustration. The machine is fastened to a table



by two screws, and after sliding the top bar of a box or section under the lever, against the stop, placing the starter $\frac{1}{8}$ inch in under the lever, raise the lever and at the same time turn the piece of foundation up against the end of the lever, taking it out with a sliding motion and the starter is firmly fastened to the box.

Edward D. Rigby, of Peshtigo, Wis., wishes to work in an apiary for a season, for experience. He is handy with tools, and would make himself generally useful. Any one desiring such help should address him at once.

E The mortality among bees has been extensive; in many cases amounting to from 50 to 75 per cent. Dysentery is the main cause.

The Albany Co., N. Y., Bee-keepers' Convention, will be held at Houck's Hall, Clarksville, May 6th, 1879, commencing at 10 a.m. A full attendance is desired.

H. W. GARRETT, Pres.

T. F. C. VAN ALLEN, Sec.

E Mr. D. S. Given, of Hoopeston, Ill., has sent us a sample of the foundation made on his plates, with wires. The wires are pressed into the wax sheet by the action of the plates, after being fastened to the frames. So far as the sample sent us is concerned, the plan is not a success—the wire having cut the wax sheet through. This may have resulted in some measure from the rough handling of the post office employees. He says:

My plan is to make the foundation right in the frames. I first sew the wire through the frames; the wax sheet is then placed on the wire and all is put into the machine. The wire is then bedded, fastened in the frames, and the foundation is made all at one snap. Of course, I can make foundation as well without frames or wire. The machine works splendidly. A boy 10 years old can run it. The plates are made of the size of the frames, from antimony and lead, made very thin and then bedded on felt. These are fastened on two boards, hinged like a book and are then pressed.

E Should any forget our address when on a visit to Chicago, they can easily procure it by consulting the City Directory to be found in almost every hotel and store.

E A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@12c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 23@25c; darker grades, 16@18c.

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 12@15c; extracted, new, 7@8c.; buckwheat comb honey, 10@12c; beeswax, prime, 25c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY.—In small boxes, 10@12c. Extracted, 1 lb. jars, in shipping order, per doz., \$3.50; per gross, \$28.00. 2 lb. jars, per doz., \$4.50; per gross, \$50.00.

C. F. MUTH.

CALIFORNIA.

Quotations for comb honey are: White, 9@11c.; dark to medium, 7@8c.; extracted, 4@6c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

E Samples of the "Metalic Foil Comb Foundation," will be sent on receipt of a three cent postage stamp. All foundation will be guaranteed against sagging in every particular. Mr. A. F. Moon, to whom sheets have been sent writes: "The bees have built up and filled with brood the frames introduced," and adds, "You can rest assured the thing is a success." JNO. Y. DETWILER & CO., 25 Summit-st., Toledo, O.



Foreign Notes.

For the American Bee Journal. Bee-Keepers' Register Book.

J. S. WOOD,

Vice-President of Danish Bee Association,

MR. THOMAS G. NEWMAN—*Dear Sir:*
I have thought many times that a bee-keepers' register book would be very

of sheets or pages in each book. I think they would be very useful if delivered at a reasonable price. You will at once see the meaning of the register on looking at the sketch sent.

Nyborg, Fyen, Denmark, Feb. 6, 1879.

IN Denmark, where bee-culture was for a long time greatly neglected, there are now over 100,000 colonies of bees. The annual product is estimated at 200,-000 lbs. of wax, 2,000,000 lbs. of honey, and 50,000 gallons of mead.

No....	Fol....	Month.....	18..	DR.	CR.	No....	Month.....	18..	Race....
						Class of Hive.....		Queen's Age.....	Size.....
						No. Frames.....			
						Date.			
						1 Queenless.	Queen Cells.	Queen Hatched	Q'n Fertilized.
						2			Eggs Laid.
						3			Bees.
						4			Swarms.
						5			HoneyHarv's'd
						6			Honey Fed, lbs.
						7			Sugar Fed, lbs.
						8			
						9			
						10			
						11			
						12			
						13			
						14			
						15			
						16			
						17			
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						23			
						24			
						25			
						26			
						27			
						28			
						29			
						30			
						31			
								Total...	

Observations and Remarks :

welcome to many apiarists. I enclose a scheme of what manner I have thought would be useful. I do not mean to apply it to very large apiaries like those you have in America; but for parties who have from 1 to 30 colonies, who wish to make notes of any special colony, I think such would be valuable, for example, as accompaniments to the slates you advertise. They could be printed or lithographed, and in paper binding of say 12, to any higher number

THE bees introduced into Australia have multiplied rapidly and largely. They labor there almost the year round. The honey produced in the spring remains liquid; the winter honey is thick and of a doughy consistence at first, but speedily crystallizes. The quality of the honey is excellent, though differing according to the location of the apiary and the kind of pasturage. That gathered in the southern districts of the country is extolled as the best.—*Exch.*



Translated from *L'Apiculteur Alsacien-Lorrain*,
by Frank Benton.

Feeding Bees for Profit.

CH. ZWILLING.

Most novices in apiculture are impelled by a desire to increase the number of their colonies as rapidly as possible. To attain this result some have recourse to artificial swarming; they divide twice and even three times, colonies which often are already very weak in bees, but instead of advancing, they go backward. Others resort to speculative feeding to stimulate the queen in her laying and to bring about the development of brood in order to obtain a large number of natural swarms. This latter method will produce the desired result if it is applied with a proper understanding of the subject; and above all, if it is employed at the proper time. Let us examine, then, for the benefit of our new disciples, at what times of the year and in what manner feeding our bees for profit should be practiced.

With us, in Alsace and Lorraine, swarms usually issue from the end of April up to the 10th of June. The young bees composing a swarm are from ten days to a month old; let us add to this the twenty-one days necessary for the hatching of the bees from the laying of the egg to complete development, and we will find that stimulative feeding should commence about the 15th of March, if it is to exercise any influence in bringing about early swarming—the only kind of swarming profitable with us.

What takes place within the hive when bees are fed, for the purpose of stimulation, every two or three days? They regard as the product of nature what the hand of man spreads before them; they hasten to leave their habitations and go outside in search of the sweet nectar. All goes well if vernal sunshine and gentle zephyrs favor these field excursions; but if, unfortunately, the weather is bad, if rigorous winds follow closely this seductive sunshine and overtake the rovers in the open field, when this happens, the poor workers are chilled, the weak colonies rapidly depopulated, and the brood perishes for the lack of care, and finally the colonies succumb. Here stimulative feeding has completely failed, and the novice in bee-culture might well exclaim with the milk-maid of the fable: "Adieu ecus, essatins, miel et ruchees!"

All goes well, we have said, if the weather is propitious. But in this case it is Dame Nature who, with us, takes charge of the stimulative feeding. See how the cornel-tree, the violets, the hazel-bushes, the apricots, and all our fruit trees spread their blossoms one after another offering a profusion of nectar and pollen for our industrious workers.

However, we do not mean to say that during the spring yield brought about by pleasant weather, the addition of a few cups of sugar-syrup or of honey diluted with water, and given at intervals of eight to fifteen days, would not hasten the prosperity of the hive. But with us the best method of feeding for profit consists in provisioning sufficiently our hives in early autumn, in giving afterwards in the spring

to each a comb of sealed honey, and in disturbing the bees as little as possible.

The only speculative feeding that M. Bastian, our great master in apiculture, recommends for Alsace and Lorraine, is the method employed in the case of swarms. Indeed give 5 to 10 lbs. of sugar dissolved in water, to a new swarm and you will ascertain with what rapidity they will construct splendid combs to be filled later, if the season permits it, with a fine store of honey.

We urge our young pupils in apiculture not to fall into an error, by reading in the journals that one Hilbert, an eminent apiculturist in the North, obtains surprising results through feeding his bees with sweetened milk or with a paste composed of eggs and honey; that one Weygandt, of Taunees, has quite as good success as his brother bee-keeper, by feeding his bees with a pap made of flour and honey; that in Luneburg apiaries of 60 colonies, stimulated by feeding, easily reach the number of 300 at the swarming season—June and July. Do not forget that these apiculturists are brought up to the business, that they know how to prepare and use properly artificial food, and that their bees are not able to revel, like ours, in fields of colza and among the blossoms of fruit trees.

However, should any wish to try feeding for profit, they may be advised to do it during favorable and unchanging weather, and to select for this purpose only populous and well-provisioned colonies.

 The Paris Exposition awarded a Medal to the Bohemian bee periodical "*Der Bienenvater*." This Medal was claimed by the Editor, and also by the President of the Society that publishes that paper. In consequence of this dispute, the editor, Mr. Mayerhoeffer, withdrew, and has founded another paper and association.

 M. Hamet, editor of *L'Apiculteur* has been appointed professor of apiculture by the French government and delivers two free lectures in the Luxembourg every week on Tuesdays and Saturdays.

 A new Swiss bee paper has made its appearance. It is called "*Bulletin D'Apiculture pour la suisse Romande*." It is edited by M. Ed. Bertrand, and published at Nyon, Vaud, Switzerland. It is well edited and nicely printed. Success to it.

 A new bee paper, bearing on its first page the name "*Oesterreichische Bienen-Zeitung*," and a quotation from Von Berlepsch as well as one from Quinby, comes from Prague, Bohemia. Its founder is Rudolph Mayerhoeffer whose name is favorably known in this country. His motto: Forward with united energy ("*Vorwaerts mit vereinten Kraeften!*") is a good one, as are also the first numbers of his journal. We wish the undertaking success.



Our Letter Box.

ROWS, O., March 14, 1879.

Last fall I had 41 colonies of bees in good condition; now I have 28; the 13 died with plenty of honey in their hives. The hives were well protected with straw on the summer stands. The frames were covered with cloth, paper and cut straw. Something less than one-fourth of the bees in box hives, unprotected on their summer stands, have died in this section; but nearly one-half of those in frame hives, protected and unprotected, are dead. Why this difference? The frame hives mostly used here are like mine, the old American, 11x14 in. frame. There were no bees wintered in cellars near this place. If this winter proves cellar wintering desirable, many of your readers will want to know how to make, arrange and manage a cellar.

C. C. FUNK.

[An apiarist of large experience reports that he has tried all ways of preparing for winter—and that there was no difference in results—all suffered by the dysentery alike. Others report the cellar exceedingly disastrous; others, again, like Mr. Funk, report the greatest loss for those packed in chaff. As yet there are no means of determining as to which manner of preparing for winter is best. Before time to prepare for the next season, we will give directions about preparing a cellar.—ED.]

Rockwood, Mich., March 5, 1879.

Sulphur water will not hurt bees. I think it is better than soft water for them. I have tried it by putting rain water in troughs in the bee yard. They would go to the sulphur spring instead. They are on the sulphur trough by hundreds all day long.

LEVI N. MILLER.

March 10, 1879.

I have 63 colonies of bees in my cellar, in splendid condition. They are mostly in the North Star hive. I have used this hive for three years and believe it to be just as good for the bees as any hive, and easier to handle than any hive I ever used. My plan to stop robbing when they are robbing hard is to take a leaky vessel and put it on the hive, filled with cold water, letting it drop on a board 6 inches in front of the entrance. The board the water drops on should slant toward the entrance.

O. W. PARKER.

Hamilton, Ont., March 4, 1879.

Bees in this section are about on the average. Some parties are losing heavily while others are doing well. There seems to be a disease such as I see mentioned in the BEE JOURNAL, that many have died of, while others have died for the want of ventilation. I see Mr. Walton's bee house described in the JOURNAL. In my mind it is the Eureka sought for by bee-keepers. It is the most complete labor-saving invention I ever saw.

J. A. WATERHOUSE.

Smith's Grove, Ky., March 2, 1879.

QUEEN TO BE GIVEN AWAY.—I will give a tested Italian Queen to any member of the Southern Kentucky Convention who will get up the largest club of subscribers for THE AMERICAN BEE JOURNAL, by the first of May. The Queen I will bring to the Convention, and it will then and there be awarded. Let all try to do the best they can to get the Queen.

N. P. ALLEN.

[For the second largest club we will give a copy of Cook's Manual, bound in cloth. For the third, the same bound in paper. For the fourth largest, we will give a copy of our pamphlet on "Bee Culture." We expect to be present, and hope to meet a large number of the Kentucky bee-keepers.—ED.]

Dubuque, Iowa, March 13, 1879.

The February number of the AMERICAN BEE JOURNAL, page 55, statistical table, gives me, comb honey, 4000 lbs. It is a typographical error; it should read 1000 lbs. Please correct.

GEORGE W. HORNER.

Brandywine Summit, Pa., Mar. 11, 1879.
Bees in this locality have wintered extra well. I wintered out of doors, with but little loss. My brother and I will have about 600 colonies of bees in operation this spring. We are going to locate about 12 miles apart with about 300 colonies to each apiary. Care should be taken in spring feeding not to excite them before the weather gets warm or they will fly out and decrease instead of increase. I prefer feeding on the hives and only such days that bees can fly. If fed outside the bees may venture out when they cannot get back. Care should be taken not to boil syrup in copper or brass kettles; I once ruined some fine colonies by doing so. I opened some hives to-day, and find they have from 4 to 5 combs with brood 2 to 6 inches square, in the center. I do not believe in wintering in cellar or winter house here. The thermometer has not been below zero more than 4 or 5° this winter at any time, and we have had about 5 days of such weather.

J. T. WILLIAMSON.

Winterset, Iowa, March 10, 1879.

On page 130, I wrote that some colonies had dysentery or cholera bad. Your printers read the last two words foul brood. That is something I know nothing about except what I have seen in the papers. On page 81, I wrote the word secretion; this you printed "section." I will give a hint now on feeding bees. Some recommend feeding flour with bran on straw to keep bees from clogging up or smothering themselves. Many of the small particles carried in with the flour are thrown away, and may be seen on the bottom board of the hive. I have tried many ways, but the best I have found is to take good fine flour—wheat, rye, buckwheat or even fine corn flour. Put in a box as others direct, but press it down firmly and they will work at it very much the same as they would pollen from the flowers, and they will not smother in it any worse than gathering from plants, at least they do not



for me and I have fed it by the 100 lbs. I generally put a little sweet anise close by it to attract the bees (for a few moments) and throw just a little flour on the bees at the entrance of the hive, and in from 10 to 30 minutes I have them at work on it, if they are breeding lively, and there is no pollen in the plants or trees, the day being warm and pleasant. It will not do to give bees all that they will carry in, or some of it will get so hard that they cannot get it out of the cells. I cut some out several years ago, that they had carried in faster than they had used up.

M. BAILEY.

Elk Creek, Ky., March 14, 1879.

I began the season of 1878 with 9 colonies of Italians which increased to 25. I got 450 lbs. of comb and 90 lbs. of extracted honey. Wintered them on their summer stands and lost but one colony, though there has been great loss of bees in this section. I had a great deal of trouble last season with my bees beginning at the bottom of frames in second story and building upwards. I gave them nice starters and cut out the comb from bottom of frames. Still they persisted in building up and in some colonies they would build both up and down.

A. E. NORMAN.

[Bees will sometimes build from the bottom of the section frames upwards, and we know of no remedy that will absolutely prevent it. For, if "they will, they will, depend on it." To give them starters and cut away the comb below is about the only thing that can be done to prevent it.—ED.]

Milledgeville, Ill., March 17, 1879.

DEAR EDITOR:—In your mention of the Eclipse hive in the JOURNAL for March, you stated that the surplus honey receptacles do not contemplate the use of tin separators. Now, lest the readers of your valuable JOURNAL should get the wrong impression in relation to the hive, I will explain. In the hive sent, there was no allowance made for admitting tin separators. Where patrons desire the separators, I furnish them with the boxes complete for the bees, with boxes that may be glassed, if so ordered. For my own use, I make the sides of the boxes 2 inches in width, top and bottom $\frac{1}{2}$ inch in width, leaving a larger opening through which according to my own experience the bees enter the boxes more readily than where the space between the boxes is only $\frac{1}{4}$ inch in width. The boxes for comb honey are used on top only; each box has a wax guide for bees to start on. I have used side boxes but with me their use has not been satisfactory, and I have nearly discarded side storing. In reference to glassing boxes containing comb honey, I think we must be governed by the demand whether it be for glass or unglassed boxes. In the Eastern markets there is a fair demand for glassed boxes, but if I am not mistaken, the demand for such is diminishing and the unglassed box is gaining favor. In the West I believe unglassed boxes are more popular than the glassed. In fact, at all points at which I sell honey there is no

demand at all for glassed boxes. Customers generally want to pay as little extra as possible in these hard times. In buying honey they want no glass included in weights. I put my comb honey all in crates which contain, lengthwise, three tiers of boxes and seven boxes in width, the same number as are used in each tier on the hive so that those next the sides of case on the hive come next to the glass sides of the crates. My crates hold 40 lbs. of honey and contain 21 boxes. I am glad to note the improvements in the JOURNAL. Each number seems to outstrip its predecessor, if such is possible. It has beyond doubt the most able corps of contributors of any bee periodical in the world. Success to your efforts.

F. A. SNELL.

New Franklin, Mo., March 5, 1879.

I commenced the winter with 27 colonies—22 in American and 5 in Quinby hives; all are dead but 8. Four of the 8 are in Quinby hives. At the commencement of winter I put all but 4 (3 American and 1 Quinby) under a shed, facing the south, with some protection on the North. Of the 4 I left out, every bee died, including the one in the Quinby hive. One of my neighbors left his bees on the ground, without any protection; they were nearly covered with snow for two months, without any ventilation top or bottom, and all are living. Please answer the following in the April number:

1. Will it do to put new swarms in the hives the bees died in; they are full of comb with some honey?

2. How can I keep the moth out of them until swarming time?

3. Do the moth or the eggs live through a cold winter without live bees in the hive?

4. How can I get the honey out of old combs that have bee-bread scattered through them, or had I better keep it to feed the bees after pasture fails?

W.M. H. SETTLE.

1. It will.

2. Keep them in a cool place and in a closed, tight box, after fumigating them with sulphur.

3. A temperature of about 10° Fahr. destroys all germs of the moth.

4. You can extract the honey, and save it for feeding purposes.—ED.]

Morrison, Ill., March 11, 1879.

Since last December I have received several communications and suggestions as to how to protect an apiary against night thieves, from barbed wire fences to watch dogs, but allow me to say that, that kind of protection is of no avail to the determined thief. Mr. Manum, of Bristol, Vt., says in February number that generosity and kindness !! is his protection, and that he gives to all that come, &c. I suppose that in the summer, as I live near a large town, I have from 2 to 20 every day, and bread and honey is always offered to those that will eat, and some to carry away. It has been my practice for years, and also to publish in our town papers invitations to all to come—but some are so lost to reason and kind treatment, as not to recognize the "mine and thine" of

property. Bees have wintered poorly in this section the past winter; many have lost all, especially those kept out of doors. The weather now, March 11, is quite warm, but windy. My bees that were inside are still there. A large per cent out of doors in chaff hives are dead. I saw some bees with pollen on their legs yesterday.

F. W. CHAPMAN.

Louisiana, February 27, 1879.

In the JOURNAL for February, M. S. Baker speaks of a sun evaporator for thickening extracted honey. What is a sun evaporator, and what is the probable cost of one? I will run 125 colonies for extracted honey this season. Mr. Doolittle's criticism in the January number has set me thinking. My bees will have plenty of comb to build this year, and I want it to be worker. Do not natural swarms always build worker comb at first; if so, will it not answer as well to remove the combs from some strong colony (strengthening some weak colony), and put in their place empty frames? Will they not then build worker comb?

LOUISIANIAN.

[The process as used in California is described thus: "Upon receiving the extracted honey they place it in large settling tanks of 3000 pounds capacity, and this, securely covered, is left exposed to the rays of the sun for a day or so. By this process all impurities are eliminated, rising to the surface, and the pure honey is drawn off at the bottom."

Large natural swarms are apt to build considerable drone comb; more especially so, if honey is coming in rapidly. Small first-swarms and second swarms build the truest worker comb, and the most of it; and a colony with a young queen builds much worker comb. These facts may be taken advantage of by the skillful apiarist, in getting worker built instead of drone.—ED.]

Freeman, Mo., Feb. 17, 1879.

The last season was not a very successful one, though I got 7000 lbs. of comb and extracted honey early in the season. After that they stored but little till after July, and that was dark. I put 180 colonies into winter quarters and lost only one. I filled the caps with flax straw and packed the same around the hives, giving ventilation through the honey board. My hives are in rows 6 feet apart; I drove 4 stakes into the ground around each hive leaving the tops level with the cap. I then put boards between the hives and stakes and packed with the straw from the ground up, covering the top with boards to lead the water off, leaving the entrance open. When snow is on the ground I slip wire-cloth between the entrance blocks and the hive to keep them from getting out in the snow. I think wintering thus is better than any other for the following reasons: The work can be done early, at odd times, not interfering with

other business. It prevents the scent of honey escaping, to attract robber bees. They can have a fly at any time desired, during the winter. It dispenses with the trouble of carrying hives into the cellar or bee house. During cold spring days they are kept warm, preventing the destruction of brood, and hence keeping the colony strong. After thus prepared they need no more care till spring, except to remove the wire-cloth when it is desired to give them a flight; and lastly they may be fed for stimulating in the spring without fear of results. I clean the hive of all rubbish, and clear such away from the vicinity of each hive before they store any honey. PAUL DUNKEN.

Macon, Ill., March 15, 1879.

How long will it take to Italianize a colony of bees with a nucleus, a full hive, or a queen alone? Which is best? How can it be done? How long before swarming time would such have to be done to insure pure drones?

F. J. STICH.

[By introducing an Italian queen, the colony will become Italian as soon as the old bees die off—which in the height of the season, will be in from 6 weeks to two months. Probably the best way is to purchase a pure queen and introduce her. For the best way consult your Manual, or refer to page 206 of the BEE JOURNAL for last June. A queen should be introduced as early as possible in order to secure pure drones—though it may be difficult to get a queen early enough to secure such.—ED.]

Henry Co., Ohio, March 18, 1879.

Dysentery has killed more than three-fourths of the bees in this and adjoining counties. I think it was caused by late blooming plants on our moist, recently-cleared lands, secreting thin honey which our bees gathered too late in the season to properly ripen for wintering.

DANIEL KEPLER.

Milan, March 17, 1879.

My bees have wintered well. I built a bee house last summer, filled in the walls with sawdust, a foot thick, and had the same over head. I ventilated both at the top and bottom. The floor I made with hydraulic cement on dry sand, well packed; it is as smooth and hard as marble; no moisture can come from below. I have a shop in one end for hive making.

SAMUEL FISH.

Appleton, Wis., March 12, 1879.

From present appearances many colonies of bees will be minus this spring in Northern Wisconsin, mostly caused by negligence. Many will be lost, I think, by taking too much honey from the brood-chamber early, leaving the bees to gather stores of unripe honey to winter on, and in many cases a deficiency. I have about 130 colonies in my bee-house; they seem to be doing well; I did not extract from the brood-chamber.

A. H. HART.



North Robinson, O., March 17, 1879.

In Feb., 1878, I bought a colony of native bees, in a straw hive. Last season it threw off a large swarm, after which I took from it about 50 lbs. of honey; it did not swarm any more and went into winter quarters with plenty of bees and stores, and came through all right, but they issued out Saturday the 8th inst., and have not yet come back. They left about 12 or 15 lbs. of honey, brood, both sealed and unsealed. I examined them about 10 or 12 days before they decamped and found plenty of bees and honey. What was the probable cause of their leaving their hive? I am well pleased with the BEE JOURNAL; you may consider me a life-long subscriber to it.

J. H. EBY.

[The cause of bees absconding *en masse* from their hives, as they often do, is as yet not satisfactorily accounted for. Mr. Butler, of Jackson, Mich., has reported a very marked instance of the kind and one that is entirely unaccountable.—ED.]

Monterey, Ill., March 10, 1879.

My bees began to work on the soft maples on the 6th. I use a cotton cloth over the frames with a chaff cushion $2\frac{1}{2}$ inches thick over it. I give no upward ventilation, the entrance in the bottom board being the only ventilation they get. I had 34 colonies, and lost 1 by robbing. JOHN BOERSTLER.

Bethany, Ill., March 10, 1879.

Bees in this locality are in good condition generally, where good hives are used. We had a good yield of honey last season after the white clover bloom. Our bees are in good condition after wintering. The BEE JOURNAL is a welcomed visitor. I regard it as indispensable. A. M. RHODES.

Centerville, Iowa, March 13, 1879.

The past winter has been very severe on bees in this locality, following closely upon a scarcity of food last fall during the season that bees usually provide their winter stores, resulting in starvation. The efforts of a few bee-keepers have distributed a large number of colonies among the farmers who aspire to the production of honey sufficient for home use; but little is sold in the market, and that little at very low figures. There are about 10 apiarists in this county that understand bee culture pretty well, and make a fair success, while a large majority of the remainder have progressed so far in the science as to almost believe that at the death of the "King Bee" by some wonderful legerdermain another "King" can be produced. J. A. TALBOT.

Lowell, Ky., March 18, 1879.

Last fall I had 82 colonies to winter; but as the previous winter was so mild as hardly to be called winter, I paid no attention to more than one-half or two-thirds of them, thinking they would go through safe any way. On January 25th, the first day warm enough, I examined them. Five of the weakest had died; three having starved, and the other two had left plenty of honey.

Now fourteen more are gone: six starved, eight left honey, and some more than enough to have wintered them again. Nineteen out of eighty-two, is the worst loss I ever had; and is due mainly to the long continued severity of the weather. From this time there is no danger of the loss of any more, unless we have an unprecedentedly cold spring. A friend, about 20 miles distant, wintered twenty colonies, by putting them into a cellar during the cold spell, without the loss of a single colony.

I have used Bingham's smoker for the past few years, and not one has had more rough handling than it has, and still it is as good as new. If any man can produce a better one than Bingham's, he will confer a great favor on the bee-keepers of the United States.

R. M. ARGO.

Rochelle, Ill., March 17, 1879.

Last fall I had 40 colonies of bees; now I have but 10, and 2 or 3 of them very weak. The others died mostly of dysentery. I had them all out of doors till Jan. 20. Then I put 24 of them into the cellar and left 8 out. Of those put into the cellar 7 are living, and of those left out 3 are living—10 in all. Most of them had plenty of honey. What shall I do with the combs? They are badly daubed up. I fear the moths will trouble me. The combs are straight and in Langstroth frames.

C. S. HUBBARD.

[For method of cleansing combs see the first page of the JOURNAL for March. Fumigate them and put them into a tight-covered box for safe keeping and protection from moths.—ED.]

Warsaw, Ont., Canada, March 17, 1879.

We have a long winter, snow being now about 2 feet deep, cold has been severe—on one morning 30° below zero. My bees, (82 colonies) are on their summer stands, 2 inches from the ground. These I buried in the first snow that came last fall; they remained covered up, and the hives quite invisible, till March 9th, when a few warm days took the snow down, so that I could examine them. I am pleased to say that they are in good condition, only one dead, and that one starved, no honey in hive. The combs are dry and bright and the bees are healthy and strong. I have 22 colonies in a bee house and on these warm days they are very uneasy, and many of them crawled out on the floor, and do not seem to be in as good condition as the 81 wintered out of doors. I do not think there can be any better way to winter bees in this far North latitude than that of out doors, and well covered with snow. I have tried it thoroughly and with good success every time. Many of my hives have only $\frac{1}{2}$ inch ends next the snow, and they are all right. The temperature is very even as long as no part of the hive is exposed above the snow.

GEO. GARLICK.

Waterloo, Ky., March 10, 1879.

I had 13 colonies of bees in Langstroth hives, and wintered on summer stands, with straw cut up fine in the upper story. I have lost 2 colonies, 1 from a leak in the side which got the bees wet in the cluster and



froze them; the other died from cause unknown. They left plenty of honey in the hives. My bees dwindled badly this winter, a large number dying in all of the hives and they are now very weak in numbers. The thermometer went as low as 19 and 24° below zero this winter. My bees are bringing in pollen to-day for the first-time. I am bothered with robber bees so that I cannot handle my bees as I would like to. When I attempt to open up a hive my neighbor's bees come in by the thousands, and I have to let my bees go till they quit coming. They have plenty of honey in all of the hives to last till fruit bloom. The JOURNAL is a welcome visitor here. I would not do without it for three times the cost. The thermometer ranged last week from 65 to 80° above zero.

R. L. AYLOR.

Long Grove, Ky., March 10, 1879.

Went into winter quarters with 25 colonies. Lost 7 on summer stands; frozen; all had plenty of honey. Think I will adopt some of the various plans to protect them next winter. All wintered well in double-walled hives. I hear that a good many owners of bees lost all they had. I have been a bee-keeper 16 years, but knew nothing about the management of bees until I took the AMERICAN BEE JOURNAL. No bee-keeper should do without it. White clover is the main honey producer in this county. It has stood the winter well, and we have a good prospect this season. What kind of mustard is best for bees? We have what is called black mustard. Enclosed please find a twig cut from a tree in my yard, that is nearly in bloom, and which my bees work on very early. Please state what it is called. My bees commenced bringing pollen on the 7th of March. I want to Italianize some of my bees this summer.

L. T. MOBBERRY.

[Black mustard is as good as any of the mustards, at least it has proved so here at Lansing. The twig is that of the willow. I am unable to give the species, with so small a specimen.—A. J. COOK.]

Lawton, Mich., March 10, 1879.

I have 50 colonies (43 in the cellar and 7 packed in chaff on their summer stands) all wintering well. I had 28 colonies last spring and increased to 52. I got 1500 lbs. of honey, mostly comb. I sold 2 colonies. Many in this section have lost their bees during the past winter.

J. D. WARD.

Maleom, Iowa, March 1, 1879.

A few days ago I made a trip around the county to see how bees have wintered. Seventh-tenths of those in board hives are dead, killed by frost and ice in the hives; some have lost their last colony. Those in double-walled hives, with chaff box on top, are all in fine condition, and are now breeding. A hive is desired that is and has been proved to be a success in wintering on summer stands. Too many commence the business with high expectations; as for instance two or three swarms from one, and a 100 lbs. of honey from each. A moderate increase, such as doubling and 50 lbs. of surplus to each hive, ought to satisfy the most ambitious.

W.M. CLEMENT.

Concordia, Mo., March 19, 1879.

EDITOR JOURNAL:—There has been a man here calling himself C. H. Kidder, who represented himself here as your agent for the BEE JOURNAL, who stated to several German farmers here that you published the JOURNAL in the German language, and obtained a number of subscribers here who paid said Kidder the price of subscription for your JOURNAL, and that is the last they heard of him. I would warn all your readers against this imposter, and hope that none will be duped hereafter by said Kidder.

CHRIST BRUNKE.

[This same imposter has visited other localities assuming different names, offering all kinds of impossible things to induce persons to subscribe for different publications. We employ no traveling agents, and no one should pay money to persons they are unacquainted with; it is always risky.—ED.]

Howell, Mich., March 11, 1879.

My 8 colonies of bees wintered out of doors, packed in chaff, came through all right, while some of my neighbors suffered heavy losses. I gave my bees some unbolted wheat flour, which the Italians work on very lively, but the blacks do not touch it. I have 4 Italian and 4 black colonies.

EDWARD GREENAWAY.

Mt. Clemens, Mich., March 3, 1879.

The past winter has been one of great loss to apiarists; many having lost more than one-half of their bees up to this date. I cannot tell how my bees will come out, as they are yet in the pit, where I intend to leave them as late as I think it will do. I may find them in as bad order as those wintered out of doors, but hope for the best. I buried them with much care.

WM. P. EVRITT.

Byron, N. Y., March 10, 1879.

After a long steady winter our bees have had good flights for two days, having been confined to the hives since December 1st. We have not had extremes of temperature here during the past winter. It was 90° below zero once, but it has averaged from 10 to 25° above. The bees were flying from all the hives (114) to-day and only 4 of them are seemingly weak but they appear strong and healthy. I never saw our bees in as good condition at this date as they appear from the entrance of hive. I picked a drone from each of 2 hives—dead. J. E. MOORE.

Eminence, Ky., Feb. 22, 1879.

I have gotten up a new hive, but it is not patented, nor do I wish it. Mr. Muth named it "Eureka." I have 7 different patent hives in my yard, but I think this far superior to all. I use 9 frames in the brood chamber, and section honey-boxes. The frames are 9x13 $\frac{1}{2}$, and 1 $\frac{1}{2}$ inches wide. Double entrance of $\frac{1}{2}$ x5 each; 4 in. portico on the side, no honey board; 2 honey boxes with frames 6 $\frac{1}{2}$ x6 $\frac{1}{2}$, entrance from brood chamber cut out of the frames for each box. I have 2 division boards, use only one unless I wish to put 2 small colonies in the same hive.

L. E. BROWN.



Coopersburg, Pa., March 7, 1879.

The last season was a poor one for bee keepers generally, giving much increase but little honey and they have wintered badly. I lost 4 colonies by dysentery, and several of my neighbors have lost a great many in box hives, with plenty of honey. Is the honey of such colonies of any use? How can it be cleansed? PRESTON J. KLINE.

[These questions were answered in March number, page 97.—ED.]

Wyoming, Iowa, March 13, 1879.

I removed my 90 colonies of bees from the cellar on the 4th inst. All in good condition. They are at work on rye meal nicely. There has been considerable loss by those who wintered out of doors in this locality. I think that the requirements for successful wintering are a well ventilated cellar with an even temperature of about 40°. My bees have come through 4 winters without the loss of a colony. J. E. HUNTER.

New Boston, Ill., Feb. 20, 1879.

What is honey? Webster says it is a sweet fluid gathered by bees from the flowers of plants. Honey is the nectar of flowers. And that which is not nectar is not honey. Then *honey-dew* is not honey, but is the secretion of plant lice. Bees gather it and deposit it in the hive and many of us have sold it for honey. If we get such a law passed as we wish, will we dare to sell honey dew under the name of honey? Will it pass by the analyzer for honey? Will some one who has some honey-dew, get it analyzed and report to AMERICAN BEE JOURNAL. D. D. PALMER.

Carson City, Mich., March 21, 1879.

Bees have wintered poorly in this locality. The old-fashioned bee disease, called dysentery, has thinned them out again. The 12 colonies that I wintered in the new hive, "the winter protector," have wintered splendidly, as also those in the cellar. HIRAM ROOP.

Lynn, Ind., March 21, 1879.

This has been a very severe winter on bees in this locality. Of those wintered on summer stands without protection, about $\frac{3}{4}$ have died. My bees are in excellent condition, having been packed and surrounded by chaff 6 inches in thickness. E. JAS. HINSHAW.

Parkham, Maine, Feb. 27, 1879.

I started last winter with 30 colonies, 20 packed in chaff and 10 in cellar. Those in chaff (Feb. 26) are pure and more populous than when put away; are breeding now, I think they will come through strong; those in cellar are not doing so well. I have made a saw like the one described by Mr. M. S. Baker, in Vol. XIV., No. 6, of AMERICAN BEE JOURNAL. I like it very much; it works nice. I have the "boss" roof for hives; it beats everything for keeping the rain out of the hive, it looks nice and tidy. It is made of slats, I have them in two pieces; I cut a groove in the ridge pole and slip the slats in; one board makes one side; the roof is square; the gable ends are pine boards.

W. H. GREEN.

Indianola, Iowa, Feb. 5, 1879.

For dysentery we take a small broom and spray the bees with a syrup made of loaf sugar; three applications will cure the worst cases we have seen.

MORRIS & ENO.

Palmyra, Mo., Feb. 22, 1879.

I have 90 colonies, and have lost none this winter. They are in good condition, and strong. I have a tight board fence on the North and West of my bees, which I believe is a good protection. I have a substantial honey house, and I think I am as well fixed for the business as any one in the State.

M. E. McMASTERS.

Bloomington, Ill., Feb. 26, 1879.

We are wintering 115 colonies of bees on their summer stands. They are all right but 2, which froze with plenty of honey in the hive. They were protected with cushions at top and sides and put away in good condition. We are much pleased with the JOURNAL; could not do without it. It seems to improve with age. May it live a thousand years.

J. L. WOLCOTT.

Carlinville, Ill., March 11, 1879.

We put our bees out on March 7. We have 128 colonies. We called the roll, every one answering to the call. We looked them all through, found one queenless. There are a few weak; were not strong in the fall. We would have united them but wanted to keep the queens over. Take them altogether, they are in splendid condition—the best we ever had them in the spring. A great many colonies, left on the summer stands, have died.

VALENTINE & SON.

Oregon City, Oregon, Feb. 13, 1879.

This has been the coldest winter Oregon has had for 4 years: and we have had more cold weather the past winter than was ever known here before. My bees wintered on their summer stands and are in good condition; they did not consume over 10 lbs. of honey. Thermometer to-day stood at 60°. Bees are gathering considerable pollen from the catkins of the hazel and alder. There are a good many flowers in bloom, but they do not produce any honey yet. Frogs are singing, bees rejoicing, and we have every indication of a good spring for our honey gatherers.

A. W. STEERS.

Old Rocky Hill, Ky., March 7, 1879.

I read the AMERICAN BEE JOURNAL with pleasure. I use the "Golden Bee Hive." It differs from all other hives in construction. When anyone wishes to examine the colony, he has only to move the feed board in front of the hive, where the combs and bees in the brood chamber can be seen, and can also ascertain if the bees are making comb, or honey in the surplus apartments, without disturbing the bees. The feed board can also be reversed front to rear, so that the bees may be fed by the use of the vacuum feeder immediately over the bees and brood to prevent their passing through empty combs and chilling them. It is so constructed that complete ventilation can be had, during both winter and summer. Honey can be taken from the top of the hive without coming in contact with the bees, if desired.

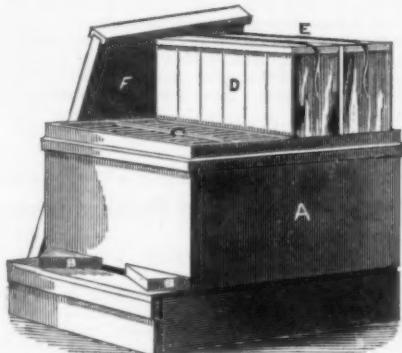
E. L. OWENS.

Correspondence.

For the American Bee Journal.
The Hive "I Prefer."

JAMES HEDDON.

The cut below will assist much in explaining the hive "I prefer" and am using. It is an eight-frame, Langstroth hive, without porch (which I have discarded), and what I claim as improvements of my own are partly shown in the illustration. The bottom stand is simply four pieces of pine. The front and back pieces are narrower than the sides, the front being nailed on to the side ends, while the back piece goes between the sides. The back end of the stand admits of ventilation under the hive. The bottom-board is only 13 inches wide, and as the grain runs from the front to the rear (allowing us to use narrower lumber), we put a cleat across the front that prevents warping, and fits the bottom stand tightly. The



The Hive "I prefer."

cut shows the hive slid slightly forward upon the stand. We use the simon-pure Langstroth blocks, and think them best. The top bars of the movable frames are heavy, and their sides run straight down $\frac{1}{8}$ of an inch before the bevel commences. I know that this shaped bar gives truer combs, and less comb-pieces between their tops and the honey-board or surplus receptacles. The honey-board (C) is a skeleton composed of strips, and when complete forms four sinks of sufficient size to each admit of a clamp of six 5x6 sections. Now, you will see that the bottoms of the clamps (D, E) rest bee-space above the honey-board, except just at their edges. Experience has convinced me that with a honey-board of this description the bees work as readily as with none, and it gives us these two great advantages: We can remove the whole surplus arrangement at once when we wish to take out the frames, and we can move each individual clamp much easier, as they are clean at their bottoms, and this is a satisfaction when we

come to crate them for market. To make up a clamp as is shown by D or E, we place 6 sections side by side, put a pane of 5x6 glass at each end, and then clamp all by springing on the wire as shown in the cut. This wire is a No. 12 coppered, which is the stiffest and most elastic. To cover up the openings above I use a pine board, smoothly dressed on both sides, that just covers the whole clamp. It is 12x5x $\frac{1}{8}$ inches. I much prefer using sections with open tops, as by removing the little board cover we can blow down the bees in a jiffy; and can you imagine an easier arrangement by which we can remove any one finished section and leave the rest? You may think this wire too small to have strength enough to hold all firmly together. We do have to handle the clamps with care before they have been given to the bees, but this arrangement, different from all others, works much better in the apiary than in the cabinet shop or hive-vender's wagon. The cap that I use is a little new also. It is merely an 8-inch rim, made so that when shoved to the extreme forward or backward, it admits of a $\frac{1}{8}$ inch space for ventilation. When drawn to its central position, it closes tightly. When the cover (F) is laid down so that the end cleat rests on the rim, then we have a ventilation above also. When slid an inch or less over the rim, all is closed tightly. Little cleats on each side of the rim enable us to lift off the rim and cover with one motion, the same as with any cap. Now, when we wish to "tier up," and put 48 sections on a hive (which we often do), we have only to omit the little board covers on the clamps to be slipped under the nearly full ones, and bring out another cap rim. The rim is not shown in the cut. I make sides of the rim, bottom of the hive and cover of $\frac{1}{8}$ pine, dressed both sides; the sides of hive $\frac{3}{8}$, and the ends of hive and rim $\frac{1}{8}$.

After spending four or five years in thinking and experimenting upon hives, I came to the conclusion that no one hive could embody *all* the advantages. I give the above description of the hive which, it seems to me, contains the *most* useful features of any one with which I am acquainted, and at the same time is free from all troublesome complications.

Dowagiac, Mich., March, 1879.

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For the American Bee Journal.
Glucose: Answer to Dr. Foreman.

CH. DADANT.

Dr. A. W. Foreman questions my statement that the best chemists of France, England and the United States say that glucose always contains more or less sulphuric acid, sulphate of lime, or lime, and wants me to give the names of the best chemists, and titles of the books and pages where these statements can be found. I reply:

Mr. Kedzie, who is professor of chemistry at the Agricultural College of Michigan, and President of the Board of Health of that State, has given the result of the analysis of 15 samples of glucose, sold as table syrups; every one of which contained either sulphate of lime, sulphate of iron, sulphuric



acid, lime or sucrate of lime, or several of these compounds. See AMERICAN BEE JOURNAL, April, 1878, page 128.

Mr. Chas. Loudon Bloxam, in his "Chemistry Inorganic and Organic," second edition, Philadelphia, page 524, says : "Sulphate of lime will generally be detected in sugar or honey adulterated with glucose." Mr. Chas. Loudon Bloxam is professor of chemistry in King's College, London, in the Royal Military Academy, Woolwich, and in the department of artillery studies, Woolwich.

A. Payen, member of the French Academy of Sciences, professor to the conservatory of arts and manufactures, and at the central school of arts and manufactures of Paris, in his "Industrial Chemistry," fourth edition, Paris, vol. 2, p. 101, says ; "Sometimes glucose is mixed with sugar syrups ; in this case it is preferable to use syrup manufactured with diastase, which, containing no sulphate of lime, does not possess either the insolubility nor the disagreeable taste of the syrups manufactured with sulphuric acid."

I have said that glucose is not manufactured with another acid, but with sulphuric acid, and I maintain what I have said, because sulphuric acid is the cheapest.

Dr. Foreman says that glucose can be manufactured without acid, by using diastase or ferment. This kind of syrup is not called glucose, but sugared dextrine or imponderable syrup, on account of its viscosity, which prevents the use of an aerometer to ascertain its density. This syrup cannot be converted in a solid mass like glucose, and is out of the question, since it has not been, so far, used to adulterate honey or sugar, nor to feed bees, for they cannot get rid of it on account of its viscosity.

Payen, in the same book, p. 91, says of this sugared dextrine : "These syrups are more appreciated than the syrups manufactured with sulphuric acid, for they have a more agreeable savor, they contain no sulphate of lime ;" and further : "You can give to the syrups manufactured with the sulphuric acid the consistency of the imponderable syrup, by boiling them down, but the unfavorable properties of these syrups persist."

Is it not wonderful, that all my references agree to show that glucose is unhealthy, while all the authors cited by Dr. Foreman profess a contrary opinion ?

Dr. Foreman narrates that in the winter of 1877-'78 he fed 2 colonies of bees with solid glucose, and succeeded in wintering them all right. I have answered him in the same number of the JOURNAL, page 118. The winter of 1877-'78 here was unusually mild, about like the winters in France ; the bees could fly nearly every week. Then the success of Dr. Foreman cannot be relied upon in a very cold winter like the one we have just experienced.

Besides, I have read in the French reports on the use of glucose for bees, that some bee-keepers praise it, while some others complain of having killed their bees with it. The same results begin to be obtained in this country. I read in *Gleanings* for March, pages 86 and 100, that Mr. Wm. Debout, of Savannah, O., and Mr. N. Case, of Orangeville, O., have killed their bees by trying to

winter them on glucose ; while Mr. E. A. Gastman succeeded in wintering them on this stuff.

It seems, also, that Mr. Root was not very successful in his wintering on glucose, for, in his paper for February, he narrates that his loss, Jan. 30, amounted to 10 colonies, out of 163. Of course, Mr. Root knows as well as either of us how to winter bees, and a loss of 6 per cent., and probably more, seems to be very great, if we consider the skill of their owner. Mr. Root did not explain what killed his 10 colonies (or more, for some may have perished since) ; we hope for him that they had not been fed with glucose. Whatever the cause, the reports that I have cited above are sufficient to caution every bee-keeper against the use of so poor a substitute for good sugar or honey, especially when we take into account that the profits derived from its use are very questionable.

Some bee-keepers will probably think that, although glucose is not reliable for wintering bees, it can be used as food in spring to promote breeding. I will ask these gentlemen whether they would nurse their children with a food which is disliked by full-grown people to such an extent that some had preferred to die rather than touch it, and which has sometimes killed those who used it ? Such a question is answered as soon as uttered. The best food is the most convenient, if we want to rear strong, healthy children or animals. Bees are not an exception to this rule.

Hamilton, Ill., March, 1879.

For the American Bee Journal. Comb Foundation in Surplus Boxes.

C. R. ISHAM.

As supplementary to my article on comb foundation, in the March number, I would say that I do not, by any means, wish it understood that I would advocate the using of thick or unsuitable foundation for surplus honey, or anything that would in the least be objectionable to the consumer. It should be the aim of every honey-producer to maintain a high standard of excellence for American honey. We intend the coming season (nothing unseen preventing) to use the new style of foundation, with flat-bottomed cells, of very thin base, and measuring 9 or 10 square feet to the pound. Such foundation, I think, can hardly be detected in comb-honey, especially when it is properly drawn out by the bees, and is far superior to old-comb starters. The past season I noticed that when the foundation used was very thin, and of proper quality, that the fact of its having been in the surplus honey would hardly have been noticed, except by a very close observer, and then, as before stated, would not be anywhere near as objectionable as though one-year-old comb had been taken for starters. We do not want, nor do we intend to have any wax-board in the centre of the comb-flake. In my style of boxes, I can ship honey with perfect safety (except careless handling), although the comb may be newly built and very tender.

Peoria, Wyoming Co., N. Y.



For the American Bee Journal.

Best Bee Pasturage.

JOHN H. MARTIN.

After perusing Prof. Cook's valuable essay upon bee pasturage, as read before the National Convention, I am incited to give my experience.

At the close of the season when the bee-keeper has time to sit down and count up his pounds of honey, he finds that his surplus has been gathered in the space of a few days of spasmodic yield. As he jots down his last figures he heaves an audible sigh, Oh! for a continuous honey yield, and thinks that if he had such and such plants growing by the acre what piles of honey he would have. If he has the land upon which to sow honey-producing plants the question is: will it pay to sow exclusively for bees?

Nearly all plants can be kept in blossom through the entire season by sowing at different periods. And a few plants continue to blossom naturally through the entire season, but do they secrete honey at all times? Our experience is somewhat limited in this matter, but we think nearly all plants have their season of growth, flowering, secreting honey and maturing the seed. It is the nature of buckwheat to mature its seed during the cool nights of August and September, and if sown at an earlier date than about the first of July, it fails to produce a crop, or to secrete honey. We usually have a fine yield of basswood honey of beautiful quality, but a few years since we saw a near neighbor sowing several acres of buckwheat about the first of June, to be plowed under for green manure. We knew, as a natural consequence, that the buckwheat would blossom at the same time of our basswood yield, and we got somewhat excited about it, thinking our beautiful honey would all be spoiled. We were going to hire our neighbor to plow his buckwheat under before it blossomed but he would not, and soon the field was white as snow. We visited it anxiously several mornings and were happy to find not a bee at work upon it; not an ounce of honey was gathered from it, and our basswood honey was as beautiful as ever. Since then we have had little faith in sowing continuous crops for honey. If you have buckwheat in continuous bloom from early spring until fall you will get honey only in the fall months; it is probably so with many other flowers. Our clover removed one month earlier or later would be a failure; even in the height of its season how much it depends upon the elements for its successful yield.

It may be different with a flower that blossoms continuously, for instance the blue thistle (*Ichium vulgare*), blossoms from June until frost and bees work upon it at all times, but its main yield is in July.

The subject of pasturage will probably receive more attention at no distant day, and those plants most useful to the bee-keeper will find their place upon every honey farm. We hope to have an acre of mignonette next season and will report its success or failure.

FEEDING GLUCOSE.

I wish to protest against feeding bees glucose or kindred substances. Every bee-keeper has a local reputation, and if he studies his own interests he will strive to keep that reputation good. Many in my neighborhood are astonished at my yield of honey (an average yield of 100 lbs. per colony), and scores have asked me what I feed my bees. Suppose a local purchaser should come into my bee house and see a box or barrel of glucose, would any argument of mine convince him that I did not get my yield from that substance? I should be ashamed to have even a barrel of sugar in sight, for I find many people have a predilection for thinking we can feed sugar and make it into honey, and sell said honey cheaper than the sugar before being fed! The best argument is to keep all foreign matters, not only out of sight but off your premises, unless it is to feed for the salvation of your bees, in times of drouth.

North Granville, N. Y.

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For the American Bee Journal.

The Shrew, or Bee Mole.

W. J. WILLARD.

I see an article in the March number of AMERICAN BEE JOURNAL, on the "Bee Mole." I know the little fellow, have known it for the last 18 years; its proper name is shrew, and it is the smallest member of the shrew family, I do not know its Latin name, but I do know it personally. Have kept it in a cage until it became tame enough to eat from my hand and allow itself to be handled. Its food consists entirely of insects and worms, though if very hungry it will not refuse a bit of raw beef. It delights to live about bee yards in winter, where the bees are left on their summer stands. And during such a winter as we have just experienced it will do serious damage. I had two strong colonies of bees destroyed this winter by the shrew mice, and several more much injured; they do not trouble



the honey but live on the bees. I protected my hives from the larger mice by placing before the entrances a piece of tin in which I had cut holes $\frac{1}{4}$ inch square; through these holes the shrew passed while they were in a starved condition, after getting into the hives they got fat and could not get out, so they died, probably from want of water, for I found them dead in nearly every hive which showed the effects of their visit. I found from two to three dead shrews in the colonies which were most injured. They eat the thorax of the bee leaving the head and abdomen untouched.

I think Dr. Greene must have procured a large sized specimen and a fat one, for they do not generally average more than $1\frac{1}{2}$ to $1\frac{1}{4}$ inches in length and about $\frac{1}{4}$ inch in width. While a boy I passed many pleasant hours with my pet shrews. I supposed they were well known and had been spoken of in the earlier bee papers.

Jonesboro, Ill., March 4, 1879.

For the American Bee Journal.
Atmospheric Bee Feeders, &c.

JULIUS TOMLINSON.

In the article in the February number of the **BEE JOURNAL**, written by Mr. Bingham, there occurs this passage, "C. C. Van Deusen holds a valid patent on all the 'tea kettle' and other atmospheric feeders in use. I mention this that bee-keepers may know who should have the credit, and the reward of this valuable 'invention'."

During a visit at the home of Mr. Bingham, a few days since, I had the pleasure of seeing this "Atmospheric Feeder." I told Mr. Bingham that this was nothing new, and to-day in looking over the old **BEE JOURNALS** of past years, I find abundant proof of my statement. In the number for July, 1868, John M. Price gives a description of such a feeder, to be made of a glass jar with air-tight top. This top is to be punched full of small holes, where it was to be filled and inverted over a hole in the honey board. He remarks "the principle is to have a vacuum and no vent on top; then you may tip it like a barrel of cider, but unless you give it vent, nothing will run out." Also in the September number for same year, the same writer again describes this feeder, with this variation, "tie a piece of fine cotton cloth over the mouth and place the neck of the bottle in a hole over the cluster of bees."

Next—In the January number for 1874, W. M. Kellogg, describes Adam

Grimm's Bee Feeder. This description is same as above only a tin can is recommended. He says, "the can must be perfectly air tight."

Next James Heddon is called. His testimony is found in the number for April, 1874. Mr. Heddon recommends a two quart fruit jar. "Punch about seventy-five holes the size of a pin, through the cover, and then after filling the jar, screw on the cover, and invert through a hole in the honey board, and you will have a twenty-five cent feeder."

Next—**AMERICAN BEE JOURNAL** for November, 1876, Rev. J. W. Shearer says, "perhaps the simplest feeder is an inverted fruit can, with a piece of thin cloth tied over the top."

Also in September number for 1875, Mr. A. Benedict says, "Glass tumblers will answer; fill with syrup; tie a piece of muslin over the mouth of the tumbler; turn bottom up, and place them over the bees."

Since writing the above, I find in Nellis' circular for 1878 that C. C. Van Deusen patented his feeder in July, 1870. This would give him a priority of invention, over all the above descriptions, except those given by John M. Price in 1868. This it seems to me would cut him off as an original inventor.

I have no wish to detract from anyone's well earned laurels but I do not believe that the principle of the suspension of liquids by atmospheric pressure can be the foundation of a valid patent. The principle is too old. It was used by the Egyptians, in the construction of syphons 1450 years before Christ. And doubtless this principle, in the syphon, was used to draw the water that was made wine at the wedding "in Cana of Galilee." And in the time of the Pharaohs, Heron describes a drinking cup that "no man can drink out of it, but he who knows the art." See Eubank's Hydraulics Book V., and in the same work, Book II., we find cuts of atmospheric watering pots, embodying the same principle, published as early as 1616, and the vestal virgin Tutie, who performed the seeming miracle of carrying water in a sieve, from the Tiber to the Temple of the Goddess, was probably only a chosen device, in which the same principle, was the means of her success. Many other ancient and modern devices, in which the suspension of liquids by atmospheric pressure is the leading principle, are also described in the same book.

But Mr. Bingham also showed me the flat-bottomed comb-foundation by Mr. Van Deusen's process. I have no reason to doubt its originality or its great



value to bee-keepers, and doubtless he will reap from this alone an abundant reward.

In the letter from Mr. Thurber published by you, he says that "pure glucose...is as wholesome as honey." If this is so, why so much about the "coming war?"

Allegan, Mich.

For the American Bee Journal.

Standard Langstroth Hive.

M. M. BALDRIDGE.

On page 427 of the AMERICAN BEE JOURNAL, for December, I stated that the standard Langstroth frame, as given in Mr. Langstroth's book, is precisely $17\frac{1}{2}$ inches long, outside measure, and not $17\frac{1}{4}$ as given by Messrs. Root and Newman. It seems that the matter was referred to Mr. Langstroth for his decision, who responds by saying that he should prefer $17\frac{1}{2}$ to $17\frac{1}{4}$. What Mr. L. now prefers has nothing to do with the point at issue. If the reader will turn to page 372, of Mr. L.'s revised work on bees, these measurements of the standard frame, as given by Mr. L. himself, will be found: Top-piece $19\frac{1}{4} \times 1\frac{1}{2} \times 5\frac{1}{16}$; bottom piece $17\frac{1}{4} \times 1\frac{1}{4} \times 3\frac{1}{16}$; end pieces each $8\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{4}$.

As the bottom piece is nailed to the end pieces it must be apparent that the outside length of the frames is $17\frac{1}{2}$, as I have stated. It will be seen also that the outside width of the frame is precisely $9\frac{3}{16}$. Near the top of the same page the precise inside width of the hive is given as $14\frac{1}{4}$, and the outside length at $19\frac{1}{4}$. As boards precisely $\frac{1}{4}$ inches thick are used then the exact inside length of the hive is $18\frac{1}{4}$ and not 18, as given in my former article. This gives a space of $\frac{1}{2}$ between the ends of the frame and the hive and not $5\frac{1}{16}$ as before stated. So much for facts and figures.

I will now give the measurements for the standard frame that I prefer: Top piece $18\frac{1}{4} \times 1\frac{1}{2} \times 5\frac{1}{16}$; bottom piece $17\frac{1}{4} \times 1\frac{1}{4} \times 3\frac{1}{16}$; end pieces $8\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{4}$.

It will be seen that I make the top-piece $\frac{1}{2}$ less in length and $\frac{1}{2}$ less in width than Mr. Langstroth recommends. I find in practice that the projection is ample. Mr. L. thinks beginners may get along with a top bar only $\frac{1}{4}$ wide, but he prefers $1\frac{1}{4}$. Still, if $\frac{1}{4}$ is wide enough for beginners it ought to be with men of experience. I will venture the assertion that nine-tenths of the "old hands" in bee-keeping are now using top bars exactly $\frac{1}{4}$ wide. There are several very good reasons why this

width is better than $1\frac{1}{4}$, and none why $1\frac{1}{4}$ is better than $\frac{1}{4}$. I make all my standard hives 18 in. long, inside measure, and find the space $5\frac{1}{16}$ at the ends of the frames is ample. Langstroth recommends $\frac{1}{2}$ and Quinby $\frac{1}{4}$. I think Quinby gives too much space for a shallow hive, but perhaps none too much for such deep frames as he recommends.

From the above it will be seen that my standard frames will fit any standard hive made by other parties, and that their frames will fit my make of hives by simply cutting off each end of the top piece $3\frac{1}{16}$ of an inch. But I cannot use a frame $17\frac{1}{2}$ in my 18 inch hive, with any degree of satisfaction; because there would be only $3\frac{1}{16}$ space between the hive and ends of the frames and this space is liable to be filled with propolis. When thus clogged, the frames would be practically, or at least disagreeably, uninterchangeable.

St. Charles, Ill.

[Mr. Baldridge is right about the desirability of securing uniformity in the size of frames. Nothing is more annoying than to have frames vary just enough to be useless for interchanging. Many will vary the size from $\frac{1}{2}$ to 2 inches just to suit a notion. Such should never be done. Uniformity is exceedingly desirable.—ED.]

For the American Bee Journal.

Wintering, Adulteration, &c.

M. E. LOEHR.

Scientific bee culture in northern Indiana is as yet little practiced, many believe in "luck" and "chance," though superstition is on the decline. Box hives are almost universal, yet many improved hives are used. The number of colonies in this (Kosciusko) county has been reduced during the last two winters, more than one-half, especially those who have left their bees unprotected on their summer stands. The present winter has been an extremely cold one, the thermometer standing as low as 23° below zero; it was below zero for nearly one month. I have had the best success wintering in the cellar. I never saw bees winter as well out of doors as in the cellar. I never lost a colony in the cellar. The one I use is so dry that it is almost dusty. I put them in when the hives were full of ice, water and snow, but in a few hours the hives were dry and nice. The hives have abundance of upward ventilation. With closed-top hives, such as



the American, I leave the entire space above open. I think it best to use a quilt on such hives as the Langstroth. The object of upward ventilation is to let the moisture escape, for without it the colony would soon perish on the account of mold. We might as well leave them on their summer stands as to put them in a damp cellar.

My bees seem to be in the very best condition, but some were troubled with dysentery. I put them out Jan. 29th, and they flew two days in succession. After the second evening I carried them into the cellar again. These two days were very warm and the bees improved the time. The only fault I find about wintering in the cellar is the labor in carrying the bees up and down the stairs.

I have adopted the Langstroth frame and I use a modification of the Langstroth hive, made to suit my own fancy. I have been using hoop-iron $\frac{1}{2}$ in. wide for metal rabbets for the frames to rest upon. I think that such are of more advantage than tin.

ADULTERATION.

It seems to me that intelligent persons would soon see the evil effects of adulterating honey. C. J. Quinby remarked in the February *Bee-Keepers' Magazine*: "Bring forward one case where a person has been injured by eating glucose; thousands of pounds are being eaten daily.... It is a little singular that some one does not find out and show up its poisonous qualities."

Everybody knows that all articles manufactured for food will not kill any person out-right; but give it its time and if it contains impurities, as glucose generally does, it will leave its effect on the system. Nearly all syrups are adulterated to a great extent. They are principally made of glucose sulphuric acid and old rags. Thousands of pounds of this are being eaten daily. Why don't this kill everybody that eats it? Did you ever hear of any one being killed by eating syrups. No! But we hear of somebody being sick almost every day, having sick stomach, indigestion, &c., and a hundred other ailments.

All articles adulterated with such things are unfit to enter the human stomach. It is daily working on the human system somewhere, producing weakness and inducing many diseases.

Palestine, Ind., Feb. 20, 1879.

[In the BEE JOURNAL for April, 1878 will be found Prof. Kedzie's Report on the Adulteration of Table Syrups, made to the Michigan State Board of Health. In it, the proof is given of the poison-

ing of a family by the name of Doty, in Hudson, Mich., by the use of glucose-table syrup, containing "71.83 grains of free sulphuric acid, 28 grains of sulphate of iron and 363 grains of lime." Its effects on the human system is, as we have before said, most deadly. It induces disease which unless arrested will result in death.—ED.]

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From the British Chemical News.

Sugar in the Nectar of Flowers.

ALEX. S. WILSON, M. A., B. SC.,
Fellow in Natural Science, Glasgow University.

Nectar is the term applied by botanists to the sweet-tasted fluid which is secreted within the cups of insect-fertilized flowers; and the object gained to the plant by its presence is that insects, induced to visit flowers for its sake, are useful to the plants by effecting a cross-fertilization. Mr. Darwin has shown what an amount of additional vigor is thus conferred on the seeds, which subsequently result in contrast with the evil effects produced by in-breeding. In many instances this sweet liquid is exuded from special glands, but in other cases from portions of the flower that do not seem to have been especially adapted for this purpose. Morphologically, nectaries may represent very different structures, but not unfrequently they are of the nature of an aborted organ—such as a petal or stamen.

It is a point in dispute among biologists, whether this saccharine matter is a true secretion or simply an excretion of effete matter from the vegetable cells—a by-product of the chemical changes taking place within these cells. The latter view seems to be favored by the fact that a similar sweet-tasted fluid, much sought after by insects, is exuded on different parts of some plants quite unconnected with the flower, as in the laurel, brake-fern, lime-tree, acacia, etc. As to the use of such exudation of sweet liquid, various suggestions have been made by those who are disposed to regard it as a true secretion; as for instance, that it serves as an attraction to certain insects, to frequent the plant, rendering service by keeping off animals to whose attacks the plant may be subject. Probably this is to some extent true, but it cannot be said to hold universally. Nectar is of course the source whence the bee derives honey, but it also affords food to many kinds of insects which do not possess the habit of storing up.



A division of the humming-birds is named *Melliphagi*, on account of living on this substance; but it is probable that in some cases the small insects seeking the nectar, and not the nectar itself, may be the object of the visits of these birds to nectar-producing flowers. The bright colors, as shown by Sir John Lubbock's experiments, serve to guide insects to the flowers, and the odor which they emit fulfills the same end. The markings on a flower's petals, it is to be noted, always converge toward the nectar, as in the violet. The importance of these guides to insects will be apparent from the following estimations, which show how indispensable it is that as little time as possible should be lost by an insect collecting honey. It must also be remembered that the nectar is usually contained in the most secure and best covered parts of the flower, the object being to prevent the access of rain, which, owing to the extreme solubility and diffusibility of sugar, would speedily cause it to be transferred to parts of the plants where insects could reach it without being of any service in the way of cross-fertilization. The chief purpose of the flower would in this way be frustrated.

The formation of nectar is observed to take place most freely in hot weather, and to be prevented by cold or wet. So great economy is exercised by the plant that it is only formed at the time when insects' visits would be beneficial, *i. e.*: when the anthers are ripe and shedding their pollen, or when the stigma is matured and ready to receive pollen. By biologists, the visits of bees, butterflies, and other insects are believed to have exercised in past time an important influence in modifying the size, shape, color, etc., of flowers, and the following experiments, in spite of their incompleteness, are of interest, as showing to what an extent this action takes place in nature, and as helping to determine the value of this factor. These estimations are only the first of a series and the writer regrets that he has been unable to give them the desirable completeness, but hopes to continue them.

The nectar was extracted with water, and the sugar determined before and after conversion, by means of Fehling's copper solution. Many of the estimations were done in duplicate, and gave results that agreed perfectly. In the case of fuchsia—which is not deprived of its nectar by any insects in this country, the nectary being inaccessible to native species—we have probably the whole amount formed; but in the other cases, the visits of bees, etc., may have reduced the amount considerably. In

this case it is a clear, colorless liquid, having an acid reaction, and an intensely sweet taste. That of many others has the strong characteristic odor of honey:

SUGAR IN FLOWERS.

	Total. M.m.g.	Fruit.	Cane? (as fruit)
1. Fuchsia, per flower.....	7.59	1.69	5.9
2. <i>Claytonia alstroemerioides</i> , do, 0.413	0.175	0.238	
3. Everlasting Pea, do.....	9.93	8.33	1.60
4. Vetch (<i>Vicia cracca</i>) per raceme	3.16	3.15	0.01
5. Ditto, per single flower... 0.158	0.158	...	
6. Red clover, per head ...	7.93	5.95	1.98
7. Red clover, per floret ... 0.132	0.099	0.033	
8. Monkshood, per flower... 6.41	4.63	1.78	

Approximately, then, 100 heads of clover yield 0.8 grm. of sugar, or 125 give 1 grm., or 125,000 1 kilo. of sugar; and as each head contains about 60 florets (125,000x60), that is 7,500,000 distinct flower tubes must be sucked, in order to obtain 1 kilo. sugar. Now as honey, roughly, may be said to contain 75 per cent. sugar, we have 1 kilogram., equivalent to 5,600,000 flowers in round numbers, or, say, two and a half millions of visits for 1 pound of honey. This shows what an amazing amount of labor the bees must perform, for their industry would thus appear to be indispensable to their very existence. Another point worth notice in these results is the occurrence of what appears to be cane-sugar, and that in the case of fuchsia in the proportion of nearly three-fourths of the whole. This is remarkable, as honey is usually supposed to contain no cane-sugar, its presence being generally regarded as certain evidence of adulteration. The question therefore arises, whether this change, which takes place while the sugar is in the possession of the bee, is due to the action of juices with which it comes in contact while in the honey-bag or expanded oesophagus of the insect, or whether the process of inversion goes on spontaneously, as may perhaps be the case.

For the American Bee Journal. An Improvement in Hives.

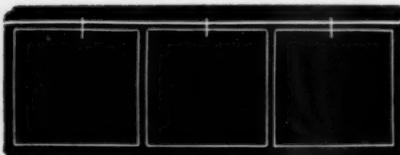
DR. J. W. WILLIAMS.

I will describe what bee men in this section consider an improvement on the Langstroth hive. The size of frame and hive is exactly that of the New Langstroth, but instead of a movable side, the side and back end are doors, hung with hinges giving easy access to frames. The frames are retained in place by means of wire staples; wire cut 24 inches long and bent at right



angles, being driven into the front board at proper distances, so that one end of the staple projects into the hive for the frame; I drive a small carpet staple over the wire staple to hold it firm to place, a hole is punched in the top bar with an awl $\frac{1}{8}$ inch from the end. The frame rests on the bottom board, by means of a nail in the bottom of the frame at each end, and driven so as to keep the frame raised $\frac{1}{8}$ inch from the bottom board. Guide nails are driven on the side and at each end at the bottom, to keep them proper distances apart. By opening the doors, the frames will swing in place, to enable any one to see the condition of the colony without removing them from the hive. If I wish to remove a frame, I raise the back end of it and all is free. The cap is rabbetted on the bottom $\frac{1}{2}$ inch, and rests on the outer edge of the hive, $6\frac{1}{2}$ inches deep, with lid hung with butts to the surplus box; a piece $1\frac{1}{2}$ inches square is put on the under side with 2 inch screws to prevent warping. The front and back piece of the surplus box are rabbetted $\frac{1}{4}$ inch deep, $\frac{1}{2}$ inch in, with a strip of tin $\frac{1}{8}$ inch wide tacked on the edge of the rabbet, after Prof. Cook's plan, for section piece to hang on, which is $1\frac{1}{2}$ inches wide and $\frac{1}{8}$ thick, and long enough to reach from front to rear of cap and rest on tin. The edge, made from plastering lath.

The section boxes $5\frac{1}{2} \times 6\frac{1}{2} \times 2$ are hung to the top piece by number 6, $\frac{1}{8}$ inch screws one to each section (see cut).



The cap thus arranged will hold 21 sections and all hang free from the cap, leaving $\frac{1}{4}$ inch space for bees to pass. My separators are made of tin and hang on the tin edgewise in cap cut in such a manner as to give a $\frac{1}{8}$ inch space above and below for bees to pass. If you wish to remove a section raise it and with a screw driver, turn the screw a little and the section is free; put on an empty one and return.

The advantage in this arrangement is you have nothing glued with propolis, as you would with sections in a frame and resting on the top of the hive. When you remove the cap for observation in the lower chamber, you remove surplus sections with it, with a great deal less trouble. Is easier made and less expensive.

I have 19 colonies on their summer stands, wrapped with flax straw and corn fodder over them. The winter has been quite severe with abundance of snow ever since December 20th.

Chesterville, O.

For the American Bee Journal.

New Method of Hiving Bees.

MOOSH AMIEL.

Many of our experiments are the result of accident leading to a thought, and the thought to valuable inventions, discoveries, &c. Last season a swarm commenced to issue, I saw them at their commencement, sprinkled water on them freely, in hopes to check them, but could not; they were not so wet but that they crawled, and gathered under the front end of the bottom board. I brushed them off into an empty hive, gave them a sheet of brood and honey; they remained all right. Now that was a cheap way, no cutting of choice fruit trees, &c.

Now for the resulting thought: Why not catch swarms as they issue (we see ours often as they commence to issue), in a hiver? Make it of a very light box, say 14 or 15 inches square, wire cloth or cheese cloth on one side to give light, plenty of narrow strips of old comb, well fastened to the top with wax and rosin; make an opening or slot on one side, near the bottom, for them to enter, as they issue from the old hive. Hang the bottom with hinges, small hooks and staples opposite hinges by which to open the hiver, shake swarm on to the frames in new hive and instantly throw table cloth over them, as swarms often leave before going down among the frames. I cannot see why this machine will not work, if the slot or opening is held to the mouth of the old hive in time to catch the queen, and if we do not get her we are no worse off than if we had not made the attempt; but very often we shall catch her, and if we do not, and they alight in a tree or on a current bush, we would use the basket as constructed by that old bee-keeper, Mr. Joseph Butler, of Jackson, Mich., who says he could not well hive his bees without. They go of themselves into his basket, if properly constructed and held up to the limb or bush where they are lighting, and can be carried a mile in it to the new hive, without being confined. Put the basket and bees on the frames, putting a table cloth over them; give the basket a shake or two, wait two minutes and then remove them.



For the American Bee Journal.

The Raspberry as a Honey Plant.

THOMAS J. WARD.

I commenced the season last spring with 9 colonies of bees, increased to 18, partly by artificial and partly by natural swarming. Last season was a very poor one here for bees. Fruit blossoms yielded but very little honey, except the raspberry, which I find by 10 years' experience, to be the best honey producing plant here, in its season, which is from about 20th of May till about the last of June.

The raspberry is also very profitable to cultivate for its excellent and delicious fruit. There is always a ready market for the berries, at from 40 cents to \$1.00 per gallon for black caps and from 75 cents to \$1.25 per gallon wholesale for the red varieties. The Mammoth Cluster (black cap) and Twiner (red) are the most profitable varieties to cultivate. They are very hardy, never winter kill, and prodigious bearers.

They will, under proper care, yield 400 gallons per acre. I have a large plantation of them now, and will plant 2 acres more of them this spring. The honey gathered from raspberries is equal to linden or white clover.

Bees refuse to work on anything else as long as raspberries remain in bloom. There are a great many linden or basswood trees in this locality, but they yielded no bloom nor honey last year, which very seldom occurs here. There are also a large number of tulip trees which never fail to bloom and furnish large quantities of pollen, and a very good quality of honey. We had a very fair share of white clover bloom last season, which produced very well while it lasted, but after that was over, I may say the "jig" was up for gathering surplus honey. Buckwheat and fall flowers did not seem to yield much honey, but afforded plenty of stores for the bees to winter on, but no surplus.

I put into winter quarters 13 strong colonies and 3 weak ones, (I sold 2 colonies in the fall). Two of the weak colonies went to the happy hunting grounds. The other weak colony promises to come out all right in the spring. All of the strong colonies are in excellent condition at this writing. I am wintering on summer stands. I could not be persuaded again to winter any where else. I have tried in-door wintering to my satisfaction or rather dissatisfaction, always with the worst of success. I always lost over half and sometimes nearly every colony by in-door wintering. I have never yet lost a strong

colony by wintering on summer stands.

It has been 25° below zero here this winter, and have had 7 weeks of intense cold weather at one stretch.

My bees are mostly hybrids, have some Italians. I got 275 lbs. of comb honey in 2 and 4 lb. boxes and about 50 lbs. extracted honey, last season. I am using the American, Langstroth, Farmer's Friend, Nos. 1 and 2, and Elvin Armstrong's Centennial hives. I regard the American hive as a moth breeder. For nice comb honey, Armstrong's Centennial hive is the "boss." The Farmer's Friend No. 2, is next in favor with me. I have no pecuniary interest in any hive.

St. Mary's, Ind., Feb. 18, 1879.

For the American Bee Journal.

From November to May.

G. M. DOOLITTLE.

As I am to commence a series of articles telling you how we (that means my wife and myself, as my wife helps much about the bee business) conduct our apiary during a year, we shall have to commence with the month of November, as that is, or should be, the commencement of the season with every practical apiarist.

Then we will suppose that you have your honey all disposed of, and your bees all prepared for winter on October 31st, and are ready to go to work for the next season. Our first work is to get our cases and boxes which have been in use the past season, in readiness for the next harvest. Get them around, and scrape off all the propolis adhering to the tin separators, and all the bits of comb that are fastened to the bottoms of the cases. All these bits of comb should be saved, and to best save them you should have your wax extractor close at hand, and all waste pieces of comb put into it during the whole season. As often as it is full, get out the wax and have it ready to fill again. All boxes that are partly filled with honey should have the honey extracted from them (unless you think you will need it to feed in the spring), as the honey will not correspond in color with that which the bees will put in to finish out the boxes the next season. To extract this nicely, we fix a shelf close to the ceiling of our room, put the honey thereon, and keep the room so warm the mercury will stand at 90 to 100° for three or four hours before we extract. By placing the honey near the ceiling, we do not require near the fire to heat it that we would require if placed on the floor or

a bench. These part-filled boxes, if extracted without warming, would all be ruined, and the apiarist's prospect of a large yield of honey the coming season would be ruined also, for these combs are better to him than money in the bank. After the honey is extracted, these boxes are to be put in the center case for each hive, that is, if you use a three-box case, you are to use three of these boxes of comb to each hive; if a two-box case, two of them, and that case is to be placed as the center case on top of the hive, so as to secure an early commencement of work by the bees in the boxes, and so the full boxes shall not all come off at once, as I have explained elsewhere. Fill the rest of the cases with empty boxes, each having a starter of nice white comb, of a triangular shape ($1\frac{1}{2}$ inches on each of the three sides), attached to the top. To put in this starter, get a flat piece of iron and heat it; hold the starter close to the top of the box (now turned bottom side up), draw the iron under the starter and immediately place it (the starter) in the right position, and it becomes a fixture. How to get this white comb for starters I will try and tell you further on. Supposing your cases are filled as directed, you are to pack them snugly away so that they will be ready for use at a moment's notice next June.

Our next work is to get out our material for boxes and make them. To arrive at the number we wish, we allow 80 prize boxes to each old colony in the spring, and find the estimation not far out of the way after several years' experience. To get at the number of feet of lumber required to make them, if an ordinarily fine saw is used, allow 40 feet for the $6\frac{1}{4} \times 2\frac{1}{2}$, and 60 for the $5 \times 1\frac{1}{2} \times \frac{1}{2}$ for each 1,000 boxes. As soon as you have them made, furnish them with starters and pack them nicely away.

Next, we make what hives, cases and frames we think we shall use the next season. Fill the cases as before directed, put your comb-guide on the frames, and pack all nicely away. For nails, we use for boxes $\frac{1}{2}$ or $\frac{3}{4}$ cigar-box tacks, and for frames $1\frac{1}{2}$ western finishing nails, which have quite a large head. For the rest of the hive we use common nails of suitable length, found at any hardware store. The western finishing nails are manufactured at Salem, Ohio, I believe, and are a splendid nail for frame making. They can be obtained in any of our large cities, from a wholesale hardware merchant. If we have further time, we get out our prize shipping crates, or as many as we think we shall need, always remembering while getting out material and making sup-

plies for the apiary, that if we have a few too many there is no harm done; but if we lack during a large yield of honey, the inconvenience is great, and often results in loss. For the prize crate, to hold the prize boxes such as I have described, get out two pieces $17\frac{5}{16} \times 8\frac{1}{16} \times \frac{1}{2}$ for top and bottom, two pieces $8\frac{1}{16} \times 6\frac{5}{16} \times \frac{1}{2}$ for ends, which are to have a slot cut in each one with a wabbling saw for handles, as shown in the cut on the front cover of this JOURNAL; 4 pieces $17\frac{5}{16} \times 1\frac{1}{2} \times 3\frac{1}{16}$ for the side strips. Nail top and bottom to ends, and side strips to ends and top and bottom. We prefer a crate made in this way to having the top and bottom wide enough to go over the side strips.

To sum up, in short, the work from November to May, I will say get everything ready you wish to use during the busy season, and have it snugly packed away so you can put your hand on it at a moment's notice. See your bees often, and if they are in the cellar, keep the temperature from 40 to 45° if possible, and do not let the dead bees accumulate on the floor to get mashed and moldy there. If the mercury rises to 45 or 50° in the shade, with the sun shining nicely, let your bees that are out-doors have a fly, no matter if the ground is covered with snow. Do not let any starve or suffer for lack of attention on your part. In fact, as I have often said, do things at the right time and in a proper manner, leaving nothing undone that will contribute to your success.

Do not forget to post yourself up in bee literature, and secure subscribers for our BEE JOURNAL, for the publishers cannot live and give us the splendid JOURNAL they do, without our aid in securing subscribers.

Before closing, I wish to say a few words to beginners, and perhaps they may apply to some who have kept bees several years. Don't pay out more than \$40 to \$50 to get a start, including bees, hives, periodicals, books, and everything. If you do not buy more than from two to four colonies (and you should not buy more), this will cover all necessary expense. Make your own wares, except a sample perhaps to work from, and thus save money and become self-supporting. Do not get crazy over the puffs of wares by those having said wares for sale, and pay out your hard-earned dollars (earned in some other business), more than just to get a start. Make your bees and yourself self-sustaining, and after the first start do not pay out for anything more than what the bees bring you in, always remembering that if you cannot make 4 colonies pay, you cannot 400. If you should



happen to make a failure of the business, you will have the consolation of knowing that you have lost but from \$40 to \$50, instead of from \$300 to \$400, or perhaps as many thousands, as some do. Also remember, if you wish to succeed, you must look after your bees. If any person expects to realize a large income from his bees, and never look after their condition (simply hive them and put on boxes), he will find himself greatly mistaken. How many who read this know the exact condition of their bees at all times? If you do not, my friend, you are not caring for them as well as you would for your cow or horse; neither can you expect any more profit from them than you could from a cow or horse if you never looked after it. Bee-keeping only pays when our pets are properly cared for, and if any one cannot spend the amount of time on them they require, he had better keep out of the business, for, sooner or later, he will turn away from it in disgust.

Borodino, N. Y., March 2, 1879.

[On page 113, of the March number, 2d column, 16th line from bottom, for $\frac{1}{2}$ inch read " $\frac{1}{2}$ inch." This was an oversight.—ED.]

For the American Bee Journal.
Experience with Comb Foundation.

OSCAR COURTNEY.

Having upward of 30 lbs. of nice pure wax one year ago, I got it made into a fine article of comb foundation. When the season for surplus honey commenced I used some of the drone comb foundation in my sections, sparingly at first, but soon learned that the bees accepted it as readily as they did the natural comb starters, and that I obtained more perfect combs by the use of foundation than I did with natural comb, and that it was thinned down to such an extent, that the "bone" was very small if at all perceptible. My honey sold as well in New York, as I could expect, without being glassed upon either side.

I used comb foundation in the brood chamber with equally good results, and to my entire satisfaction. I can show some very fine specimens where foundation was used. If there was any sagging it is not perceptible to me, and there is no waste, or unoccupied space at the under side of top bar, the cells being perfect enough to raise young bees in. I use the Langstroth frame and my method of fastening foundation in the frame is as follows: Use the flat top bar and slit it open from one end to

the rabbet at the other with a thin saw, then I put together my frames as in using the V guide, except to leave one-half of top bar as the end that is slit clear out without nailing; then I have a board one-half the thickness of top bar, nearly the size of inside of frame, and lay it upon a table, put my frame over with the loose side of top bar up, take a sheet of foundation a little shorter and about one inch narrower than frame is deep, place it upon the thin board, raise the unnailed half of top bar up and slide the foundation into the jaws of frames, just enough to have a row of cells commence under the edge of the top bar, let it back and nail through with brads, then nail the half of top bar that was left loose to end of frame, and my work is done, taking but a short time after being once prepared. It makes a perfect fastening, without the loss of a single row of cells upon either side of top bar.

Marathon, N. Y.

For the American Bee Journal.

Improvement in Bees.

JOHN F. EGGLESTON.

Can our bees be improved? If not, why not? If they can, what is the most practical way of doing it? Prof. Cook touched the right chord when he gave a warning against the wholesale use for breeding with untested "dollar queens." In my opinion this is one of the most vital points to be considered. In locations where the barbarous practice of killing the bees to get their honey has been abandoned, many colonies every year survive the winter so reduced in numbers and stores, that they have to be coaxed and petted all the summer, and not unfrequently helped from other colonies that would themselves be profitable, but for the charities bestowed upon their worthless neighbors, in order to get them through to begin the next season where they began the year before. The queens would finally be removed or superseded by the bees; if by the latter, the young queen may be superior to her mother, but would any sensible man believe the chances were as good for the production of a valuable queen, as though she had been bred from the best queen at the command of the apiarist, and fertilized by a drone bred from a choice colony. If it were not for the interference of man to save that "dollar queen," nature would have corrected the error, by preserving such only as were able to provide for themselves. The trouble does not stop here, for our valuable queens are as



liable to mate with drones from such do-nothing colonies as others, just in proportion to the per cent. of such drones in the apiary, and the chances may even be in greater proportion should there be many beginners of the new school in the immediate vicinity.

After closely observing and experimenting in this line for 8 years, I am so positive with regard to the results, that I would not exchange my present stock for twice the amount picked up promiscuously through the country, strength of colonies, same style of hives, and all other conditions being equal, unless I had reserve queens to introduce at once. I have no axe to grind, for I have not a queen for sale at any price; if I had, they would not suit some of my bee-keeping friends, for they have not all the golden uniformity.

To begin the improvement of any kind of stock, we must take pains in selecting the parents, and breed from such only as show the qualities aimed at in a marked degree. If I was to point out a line to pursue for improvement, I would breed queens from such colonies as show the most desirable points, such as honey gathering, ability to stand the winter well and not dwindling away in the spring, mild disposition, and lastly, color, if it can be obtained with the other desirable qualities; if not, sacrifice it for something of more importance to the honey producer. Not that I prefer dark color, for I too, like handsome bees, but men that depend upon their bees for support for themselves and families, must have more substantial qualities than fine feathers. After the queen cells were sealed in full colonies, being started from the egg (no others admitted), I would transfer them to the nucleus that had been unqueened, and remove to the drone apiary, which should be 5 or 6 miles from other bees. I would keep no drones there but the *choicest* that could be procured, and many of them. I would be particular in selecting drones, to take them from colonies that had distinguished themselves in the qualities sought as well as for their individual size and beauty. For breeding on a small scale the apiarist could have recourse to the Kohler or other known methods that give him partial control over the mating of the queens, but I would much prefer the distant apiary.

Scientific breeders of domestic animals of all civilized countries recognize the necessity of selecting strong, well developed, and perfect sires, knowing they are much more certain to stamp their own individuality upon their offspring than sires of less stamina and

constitutional vigor. If we reason from analogy, the necessities for selecting drones as well as queens are obvious, in order to arrive at the greatest perfection in "breeding up."

The more natural tact and indomitable perseverance brought to bear upon this subject, together with that keen observation and necessary enthusiasm which ever attends the skillful breeder, the greater will be the measure of success.

As yet we have been unable to completely control the mating of queens, therefore we have not made as rapid strides in improvement as might be desirable, but we still hope that Yankee genius will solve the problem and show us the way.

Garland, Pa.

For the American Bee Journal.

Bee-keeping as a Specialty.

T. F. BINGHAM.

Successful bee-keeping does not depend on a large apiary run on the highest style of the art. The success attained in agriculture, manufactures and the ordinary pursuits of life are not all brilliant and startling. It is true that we read of farms of immense proportions, factories which are the main interest of a city, and merchants, whose reputation for business is world-wide. We have a few great lawyers, a few great doctors, and a few great thieves. These men challenge our attention by the scope and brilliancy of their genius. But it must be borne in mind that of these there are but few. The great tide of human attainment runs deep and still.

Special bee-keeping like special farming, in a few isolated cases, has been a marked success. But any careful observer will not fail to realize that we are more sure of a steady and ample supply of bread, meat and potatoes, when the raising of these commodities are distributed over a large extent of territory and a large number of small producers. Special stock raising is only possible mid broad pastures and nutritious grasses. So with special bee-keeping, the pasture must be of the first order, wide and good. Bees are like hens which from causes not generally understood, only do best when but few are kept. Special efforts have been made to augment the number and improve the breed of fowls so as to raise eggs as a specialty. Such efforts have been only failures. If the world depended on special egg-raisers for its



egg-nog, ice-cream and ham and eggs, it would soon be reduced to whiskey, butter-milk and starvation. Few are adapted to any pursuit in its widest sense, however lofty their aspirations. The many must move on with the means at their command and while they cannot raise honey by the ship load in penny packages, they must be content with raising by the ton or hundred in such packages as will sell. No fact is better established than that five or six colonies of bees and their increase, will gather a much greater average amount of honey in average seasons than if kept in larger numbers. It is not to be presumed that honey is to be all of one price, any more than cigars and tobacco. Honey will differ in quality and flavor, as well as in style of package. Some will prefer one kind of flavor or package, while others would prefer another and very different article in a very different form. The supply of honey has reached such proportions that diversity of taste as well as style may in the near future become a leading feature.

While it is desirable to elevate taste as much as possible, all may not be able to compete in its supply. Such must fall back on ready-made appetites, faulty in gastronomic construction perhaps, but strong, wide and deep.

Abronia, Mich.

For the American Bee Journal.

Why Honey is Slow Sale in Market.

EDWIN PIKE.

Adulteration of all sweets is so well known that further proof and argument are unnecessary. Bee-keepers have other vexations to encounter, which turn up in various ways, and materially affect the sale of pure honey.

The scarcity of money is a serious drawback in selling honey in western home markets even such a small crop as was obtained during the season of 1878. People naturally buy that which is cheapest, getting the most for the money invested. Quality is not so much of a consideration with a majority of customers, and a good article not as well appreciated. Grocers not only do a little injustice to bee-keepers in selling on commission, but are sometimes slow to sell for their own interests.

Farmers and others who know but little how to obtain good honey, will often bring small lots of honey in such shape and offer it for just what they can get. Perhaps the grocer buys it for half price in trade. Being satisfied with his profits on goods, perhaps he

will sell it out the same as paid, and thus a uniform price of honey is harder to maintain. Again, perhaps some one comes along, who has been pretty well puffed up by some 2d or 3d rate bee publication, with some extracted honey from combs within the hive, promiscuously strewed with the honey knife through honey, bee bread and all, and offers it a little less than the price, purchasers thinking they are getting a bargain, buy some. Such honey lasts them a long time, and they will not care to purchase even good honey at a trifle higher figure.

I believe a correspondent in the AMERICAN BEE JOURNAL for Feb., says that dealers and consumers demand glucose in their honey. Dealers may think it quite a fancy thing to raise the price of glucose by its mixture with honey. This would be a financial view of the case. As for consumers demanding a mixture of that article is something I have not heard of before. If a consumer thinks glucose improves good honey, why don't they buy the article instead of honey? It could be bought at a much less price than honey, and if the taste suited, it would be quite a financial success for the consumer.

A refiner says that glucose is an article of commerce, but does not say for what purpose it is used, except for mixing with other sweets. If there are other purposes for which it is used, I think the board of trade will have to see that no such mixtures are shipped to Europe. If they do, our exporters will be rubbing their hands for the next 10 years to find anything more there to do, in such a line of business. The export of good honey to foreign countries would receive a severe blow.

It was stated in the *Scientific American* for February, that some bee-keepers are feeding their bees immense quantities of glucose, and shipping to eastern markets. Perhaps this explains why we read of such immense yields. This being another mode of adulteration, our markets for comb honey will be seriously affected.

One publisher of a bee paper advocates feeding grape sugar to bees, and now see its result. Honest production is baffled and it occurs to us that Congress should compel dealers to label their mixtures just what they are, and compel producers to label their honey, comb or extracted, just what it is, under severe penalties.

Consumers have a moral right to know what they are buying for themselves and their wives and children to eat. I believe they not only have a moral right, but a legal right to know



exactly what they buy. As regards the use of poisonous substances in the process of manufacture or otherwise of all sweets or articles of diet, a severe penalty for using such should be inflicted by law. No one can say but that this is a progressive age, but the sooner we institute *morals*, the faster we will progress.

Boscobel, Wis.

[We do not believe that there has been any very large amount of comb honey, as yet, adulterated by feeding the bees glucose. But there is danger, and hence all honest men should at once and forever discountenance its use in or about the apiary. Our honey must be above suspicion, and we cannot be too scrupulous about maintaining its exalted character for purity and deliciousness. Once give cause for suspicion, and the innocent must suffer alike with the guilty.—ED.]

For the American Bee Journal.

How Bees Mark their Location.

L. JAMES.

On page 416 of the December number of the *BEE JOURNAL*, Mr. Waterhouse asks, "How do bees mark their location so accurately?" Although a reader of the *JOURNAL* from its first issue to the present, I have no recollection of seeing this question asked before in its pages. Although I have neither time, nor inclination to write for the *JOURNAL*, still, I have received so much information from various articles contained in it, that I feel myself rather under obligations to give Mr. Waterhouse and others my views as to the way in which bees mark their location so well.

As early as the year 1857, while handling some bees an incident came under my notice that led me to believe that they are gifted with a faculty of knowing the exact direction to fly, to reach the hives. A faculty of location, if I may so term it, that we in our own persons are strangers to. Since that time my attention has been directed to the subject and I am satisfied of its correctness. When we come to carefully think upon the subject, it appears as an absolute necessity for these wonderful little creatures to be endowed with, for being urged on by an intense passion for the accumulation of honey beyond all possibility of need we find them flying here and there in all directions, crossing and re-crossing their line of flight, rambling for miles it may be in its course, before

it has a satisfactory load, then it rises and thinking of home, and making one or more circles in the air it "strikes a bee line" and that course followed leads to the hive for sure. Though a bee may be roughly knocked round in all directions and sent spinning like a top to a great distance, yet if sufficient strength remains to fly it will be found on its rising to go through the same preparatory movements and then start straight for home. It may be carried many miles from home and then released, yet the little creature finds no trouble in striking the bee line that points towards the hive. We see this faculty exhibited by various creatures, strikingly so in migratory birds.

That they are possessed with sight and hearing I presume few will doubt, yet I do not think they depend much on seeing, even when they are quite near the hive. We may satisfy ourselves of this fact by noticing the crowd of bees returning to the hive in a busy time. Every once and a while, one will alight within a very short distance of the entrance and seems not to be certain that it is right, while a constant string of others that have alighted much further away are rushing past, yet instead of entering with the others, it will take to its wings and rise up and go through its accustomed circular flight and then make for the hive. I have seen a bee go through this same course a number of times before entering. I have no doubt but that almost all have seen the same, if they have paid much attention to the subject.

A great deal has been said about painting the hives various colors so as to enable bees, and particularly the queens, to know their hives. I am satisfied this is an assumption that will not be verified by fair experiments. It is the *place or situation* the hive is in, that judges them in this matter. If any one wishes to satisfy himself about it, let him next spring when he wishes to obtain queen cells select the brightest colored hive in his yard and put by the side of it an empty hive of an opposite color, and remove two to four frames of brood and bees, and after having arranged them and closed up the hives, remove the parent hive 12 or 18 inches to either side and place the new one where it stood. If this is done in the middle of the day as it should be, by evening he will find most of the gathering bees in the new hive. Reversing the hives next day will change things again, and by a little proper management he can regulate the division of the working force almost as he wishes.

Atlanta, Ill.



Conventions.

Clark County, O., Convention.

The bee-keepers of Clark county, O., met in Convention at Springfield, O., Jan. 18, 1879, and adopted a constitution, its object being the promotion and encouragement of bee-culture in this and adjoining counties; membership fee, 50 cents per year for gentlemen, ladies free; time of meeting, first Saturday in each month, at 2 p. m., at the Lagonda House, Springfield, O.

The following officers were elected: President, W. H. Berger; Vice President, Dr. A. B. Mason; Secretary and Treasurer, Samuel G. Brown; Executive Committee, W. W. Burnett, A. J. Smith and J. Tritt. A. J. Smith, W. W. Burnett and D. O. Frantz were named a committee to prepare questions for discussion.

At the February meeting there was a good attendance, and every one reported their bees as "wintering well."

Lancaster County (Pa.) Convention.

Met at Lancaster, Feb., 10, 1879. The meeting was called to order by Vice President J. F. Hershey.

REPORTS.

The chairman stated that he wintered some 70 colonies in the house he has prepared for that purpose. So far he has lost very few bees.

J. G. Martin said he had lost very few bees—not half a pint per colony; but as the hardest time is still to come, there is no telling how they shall come out in the end.

S. H. Musselman. None of his colonies have as yet died.

J. Hurst has 5 colonies, has lost none during the winter.

John Huber's colonies are all alive so far, and apparently doing well.

J. H. Mellinger has wintered 8 colonies on their summer stands, and they are all doing well.

Jonas H. Shank has wintered 7 colonies, and they are all doing well on their summer stands.

Elias Hershey began the winter with 26 colonies on summer stands. They are all apparently doing well.

FEEDING GLUCOSE.

Should glucose be fed to bees? None of the members having tried the article, it could not be spoken of with any certainty.

The chairman said it had been fed to bees quite extensively. Some writers advocate it, while others are as strongly against it. The weight of evidence was against it. He advised against its use. It would have a tendency to impair confidence in our honey product. It might be fed before bees begin to store their regular supplies.

J. G. Martin had never tried glucose, but he is not in favor of it. He advised caution in its use. He favored a law against honey adulterations.

J. F. Hershey said glucose contains so much acid that it often proves fatal to colonies.

I. G. Martin remarked if fed at all it should be mixed with sugar.

IS IT ADVISABLE TO BUY DOLLAR QUEENS?

I. G. Martin had bought some of these queens and some proved very good—as good as the high-priced queens. If they can be had of a reliable breeder, they are worth trying.

Elias Hershey agreed with Mr. Martin. He bought 5 last year, and got 2 good ones; the other 3 were impure and worse than those which he displaced with them.

I. G. Martin had 2 pure ones out of 4; the others were rather more than half pure.

J. F. Hershey does not want any dollar queens. He has raised too many himself to believe in them. You run a risk in buying them. They may be alive when you get them or they may not be; they may be pure or otherwise. He don't raise dollar queens, but when he sells guaranteed queens they are raised from his best queen. The queen is the strong point in a colony; if she is pure and good, your colonies will be good.

COMB FOUNDATION.

I. G. Martin said he had used foundation without wires. Pure wax was desirable; that which is impure is not acceptable to the bees; the combs sag, besides. They should be used only about 7 inches deep; first press them against the bar and then tack them fast. There are other ways, but the latter is the best.

J. F. Hershey never used comb foundation but will try it this coming season. He will use the comb containing wire.

WHAT IS THE BEST MODE OF SPRINGING BEES?

J. H. Mellinger's method was to feed them strongly until apple-blossom time, or until flowers come, by which time they would be in good condition and throw good swarms.

I. G. Martin read the following, which gives his method of preparing colonies for their spring and summer work: It is of great importance to have our bees strong in the spring, before the honey harvest. But how shall we get them and the hive filled with brood so early? My plan is, as soon as spring opens and the bees begin to gather pollen, to examine every colony by lifting the frames out, and if it is weak, shut the bees to one side of the hive with a close-fitting division board, on as many combs as they can cover, so as to keep up the heat necessary for brood-rearing.

If the colony is very weak, I take all the combs out but two, and if it is so weak that the bees cannot cover two combs, then I unite it with another colony. As soon as the queen has filled these combs with eggs, I spread them apart and insert an empty comb between those with brood. In two or three days this comb will be filled also with eggs, and so I keep on inserting empty combs as fast as the queen fills them with eggs, and always in the middle of the brood nest till it is full. The queen will be laying in the center of the brood nest all the time, instead of on the outside of the cluster,

which she seldom will in the cold weather of spring, but when it is warm and the bees are plenty, then she will lay anywhere in the hive. As soon as the strongest colonies are full, I take a frame of hatching brood out and put it in a weaker one, and then put an empty comb in the stronger one for the queen to fill again, and so I keep on till all are full. Then put on the honey boxes, so that if they gather honey, they must put it in the boxes, the hive below being all taken up with brood. Each box should have a small piece of comb attached to the top for a starter, or, if you have no nice white comb put in a narrow strip of comb-foundation.

J. F. Hershey had some weak colonies last year. He took out nearly all the combs, and began to feed them. They tried to raise too much brood, and the colonies died. Others that were left alone did very well. If they have plenty of honey in the spring, he did not think they should be fed. High winds often injure colonies in early spring. They should be protected.

I. G. Martin generally gives his colonies frames with honey, instead of feeding.

J. F. Hershey said in an experience of 20 years, the queen of his best colony did not begin laying until April; he got 135 pounds of honey from that hive. He does not believe in feeding until after the apple blossoms are over. To do so is to stimulate them in rearing brood. Sugar is the best artificial substance to feed bees with.

MARKETING HONEY.

J. F. Hershey thought the better the honey is put up, the more you can sell. He has sold much, and the nicer, cleaner and whiter honey is, the better it will sell. He will use one-pound boxes hereafter, believing them more salable than those of larger size. The honey sells faster. Have the boxes nice, clean and attractive.

I. G. Martin exhibited boxes intended to hold one and two pounds. Three months ago he had these same boxes on exhibition filled with honey, and they were exceedingly beautiful. He preferred the two pound boxes. In selling extracted honey, two or three pound jars are best to put it in. He had a sample on exhibition, which was a most beautiful specimen of clover honey, and as good as it was beautiful.

J. F. Hershey advised that honey be kept in a warm place; it keeps better and nicer. He has found that pound boxes of honey sell better in the market than two pound boxes. He will use single pound boxes hereafter if experience shows him they will continue in demand. He also proposed to have the association composed of paying members, and that a fair be held next fall by the association, giving premiums to the honey exhibited in the best marketable shape.

Elias Hershey suggested that a committee be appointed to inquire whether we could not hold an exhibition in conjunction with the Agricultural Society.

A motion to that effect was made and carried. Peter S. Reist, Elias Hershey and I. G. Martin were the committee appointed by the chair.

J. H. Mellinger thought questions should

be assigned to different members, to be answered at a future meeting. The motion was made and carried. J. F. Hershey, J. H. Mellinger and H. H. Myers were appointed to prepare essays to be read at the next meeting in May.

FEEDING RYE FLOUR.

J. H. Mellinger asked whether it was advisable to feed rye flour.

J. F. Hershey had fed this flour early in the spring, as soon as the bees begin flying. Don't feed too much. If you do, they gather too much pollen. Feed a little each day.

I. G. Martin thought where only a few colonies were kept it was no advantage to feed rye flour. Oats with the rye was better.

Elias Hershey said where there were maple trees it was not necessary to feed rye flour.

I. G. Martin said the willow was also a good tree from which to gather pollen and honey; it came into season immediately after the maple.

On motion, the Society adjourned to meet again on the second Monday in May, 1879, at Lancaster, Pa.

North-Western Ohio Convention.

Met at Wauseon, Jan. 2, 1879. The President, Capt. W. F. Williams, delivered the following address:

Gentlemen of the Convention:—On this cold winter day I greet you. More than forty years ago, when a mere boy, I remember of roaming with the Indian through the almost unbroken forests of this neighborhood in pursuit of the wild deer and the turkey. It was then a land of wild game, and flowed (not much with milk), but plenty of honey. But time has made a change. Instead of the almost unbroken forest, we now have this beautiful town of Wauseon, surrounded by fertile and well-improved farms. Instead of howling wolves we now have the rumbling cars, and the whistle of the steam engine. Instead of looking among the hollow trees and old logs of the forest, or possibly in the log gum or salt barrel around the log cabin, for that most delicious sweet honey, we now have the movable frame hive, with its section boxes, the extractor, comb foundation, and many other improvements in apiculture. To these latter let us direct our attention. That, while our little pets are enjoying their winter slumber, let us prepare for the coming summer labor. The time allotted for our deliberation is short. To utilize time permit me to call your attention to some of the subjects that require your notice, and submit questions for your discussion. At our last convention in the city of Toledo the following resolution was passed, viz: *Resolved*, That the national convention at New York should establish standard of purity for Italian queens, and that no queens should be sent out by any queen breeder unless previously tested and up to the standard. Our convention at the same time adopted the standard of purity of the Italian. (See AMERICAN BEE JOURNAL, 1878, page 400), as follows: An Italian queen to be pure should be of a golden or leather color,

medium size, large but fine wings, and active. Should be noted for her gentility, industry and prolificness. Her progeny should be distinctly marked by three yellow bands across the body. They should be mild in temper, but quick in defence when suddenly alarmed, and gentle in manipulation of the hive, adhering closely to the comb. The purity of the queen can only be tested by her progeny, especially her queen progeny.* Unfortunately the latter clause, for some unforeseen reason, was omitted in the report published in the *AMERICAN BEE JOURNAL*.

The national convention held in the city of New York, in response to the above resolution, so far complied with our desire as to advise beginners "to purchase only tested queens of reliable breeders." We appreciate the recognition of our request so far as it goes, but it is hardly sufficient to prevent the dissemination of impure queens. There being such a diversity of opinion among practical apiarists and queen breeders, we therefore recommend the adoption of the following resolution, viz: *Resolved*, That each queen-breeder desiring the patronage of the bee-keeping public accompany his advertisement with what he considers "a standard of purity," and that he permit nothing to leave his apiary but what fully comes up the advertised standard. If the sentiment of this resolution is carried out fully, the purchaser of queens with the standard of purity before him, (together with the reputation of the breeder), he may have the assurance that he will be fairly dealt with and obtain what is desired. If we wish to improve on color or productiveness by crossing, we have the information, to aid us in our selection, and if "beautiful princesses" are desired, we can unhesitatingly refer you to "friend Alley," and if honey production is the object, we can, with the same assurance, refer to our old friend, Charles Dadant.

The president then read the following essay on queen rearing and the improvement of the honey bee, which, after discussion, was adopted:

Gentlemen of the Convention:—Having been requested by a correspondent of the *AMERICAN BEE JOURNAL* and other visitors to give for publication my process of rearing queens and bees, and how to improve them, I submit the following for the consideration and criticism of this Convention. I prefer criticism at home, and if this communication will be of any advantage to apiculture, and tend to the improvement of the honey bee, it is at your disposal.

The production of honey and wax is the object of the apiarist. Hence we should breed to attain this object. To do this we must improve on those characteristics of the honey bee that will lead us to the end desired. The first essential is prolificness, to enable us to obtain a sufficient number of bees at the time they can be made the most useful. The second, that of industry and ability as honey gatherers. Third, gentleness for convenience in handling, and, finally, color of beauty is desired. With the foregoing traits of character in view, I experimented for three years with the native black and the Italian bee. I found the Italian so far superior that I abandoned the

blacks entirely. The Italians possess the ability to protect themselves from the ravages of the moth miller, and also to gather honey from the blossoms of the red clover, in which characteristic the blacks are deficient. The last season, with one hundred and fifty colonies of Italians, I have had less trouble with moths than formerly with one colony of blacks. In August last my Italians were storing honey from red clover when the blacks were not gathering enough for daily consumption.

In raising queens, I select a strong, healthy colony, especially strong in young bees, and remove the queen. The next day, or as soon as queen-cells begin to develop, I remove all the combs containing eggs or uncapped larvae. I then select comb containing eggs only, from my best colony (usually from imported stock), and place it in this queenless colony, prepared as above. I aim to have my young queens hatch out on the fourteenth or fifteenth day. The tenth or twelfth day I divide this colony, and prepare as many more colonies by dividing strong ones as is necessary for the number of queens wanted. The thirteenth or fourteenth day I give to each colony thus prepared a queen cell. I then keep watch of the cells till the queen comes out. If well developed, with good wings, I mark the date of hatching; if faulty, I destroy her and give the colony another cell, or join it with another weak colony. As soon as my queens come out I select my colonies containing drones, with which I desire to mate my young queens. If there is not a good flow of honey, I stimulate by feeding warm honey or sugar syrup to those hives containing drones, also those containing young queens. I usually put a few selected drones in the same hive with virgin queens. When my young queens are three days old I close the entrances of my hives containing selected drones and those containing virgin queens, to prevent egress of drones or queens. I generally do this about 11 o'clock a.m., or before the drones take their daily flight, which usually occurs about 12 to 1 p.m. Watch carefully their return, and when they are all in, let out your virgin queens, giving them a few minutes time to make observations regarding locality, then release your drones; do this daily until all are fertilized. If the weather is favorable and your bees properly stimulated, you will seldom fail in having your queens fertilized by the fifth day. The points gained in the process are: First—By selecting eggs from choice colonies your bees have the full time allotted for the perfect development of the queen bee. Second—By giving stimulating food during their virginity you have the most perfect development in growth. Third—You can select you drones from good blood with the same care that you select the blood of the queen, which is equally or more important. In general, from the female we look for form, gentleness, activity and color; from the male, energy, industry, ability and longevity. In conclusion, I will give the results of a few experiments in 1875, with 1 colony of Italians and 13 colonies of blacks in the same yard, with 15 blacks within about 50 rods south and 8 or 10 more in a radius of $\frac{1}{2}$ mile. I reared 7 Italian queens



and by adopting the above process, I had 4 of the 7 purely mated. This was my first effort, and might say, it was a "happen so." At another trial, where the Italians and blacks were about equal in numbers with 7 queens, all were purely mated.

From past experience and observation, I am confident that fully three-fourths of our queens may be mated with selected drones, by a little painstaking.

On recommendation of the committee on the president's address, the resolutions recommended therein were passed unanimously, and the omission in the report of the committee on purity of queens, published in the November number of the AMERICAN BEE JOURNAL was ordered to be corrected.*

On motion, J. M. Williams was appointed a committee to confer with the president and directors of the Fulton county fair association in regard to offering such premiums as they may think proper for the encouragement of bee culture.

The committee on exhibits reported that the honey extractor, as made and improved by Mr. B. O. Everett, of Toledo, with gear of double strength, and the post on which the central shaft revolves being secured by solder and bolt through bottom, thereby giving great strength, together, with handles at the sides for convenience in handling, and lugs at the bottom for securing firmly while extracting, makes it as perfect as any machine can be made. The other exhibits consisted of a case of sections, chaff division board, section boxes, simplicity and quart bee feeders by A. Fahnestock; four bottles containing bees in alcohol, to show progress in improvements, by careful breeding, by President Williams; honey, hives and Cook's new Manual of the Apiary and the new Bee-Keeper's Text-Book, by Mr. B. O. Everett, all of which were approved, and a vote of thanks tendered to the exhibitors.

On motion, Napoleon was designated as the next place of meeting. On motion, the thanks of the association were tendered the proprietors of the Eagle House. On motion, the Convention adjourned, to meet at Napoleon on the first Thursday in April, 1879.

DANIEL KEPLER, Sec.

[*The omission referred to, consisted of four words, "especially her queen progeny," and was purely accidental. We cannot now say positively, but it was probably an oversight in setting up the type. We cheerfully make the correction.—ED.]

Eastern Nebraska Convention.

Met at Omaha, Neb., Feb. 8, 1879, at 2 p.m., in the Board of Trade rooms.

Mr. Corbett was elected Chairman *pro tem.*, and H. Bruning, Secretary.

Mr. Craig moved that the society be called the "Eastern Bee-Keepers" Association of Nebraska." The motion prevailed.

On motion of Mr. Pigman, the Chairman was instructed to appoint a committee on permanent organization. The chair appointed Messrs. Pigman, Poland and Craig

as such committee. It was resolved that the committee on organization be instructed to report on Saturday, February 22, at 1 p.m.

The adjourned meeting assembled at the same place on February 22d.

Present—Messrs. Craig, Byers, Pigman, Ehrenphort, Pageler, Bruning, Van Dorn, Corbett, McLain, Poland and Peckham.

The minutes of the last meeting were read and approved.

The committee on constitution and by-laws reported, which report, on motion of Mr. Van Dorn, was accepted, and the committee discharged.

The constitution and by-laws were then read by articles, and adopted with some amendments, after which the constitution was signed by all the gentlemen present.

The following officers were then elected : Hiram Craig, President; J. L. Poland, Vice President; W. G. Pigman, Secretary; H. Bruning, Treasurer.

On motion of Mr. Ehrenphort, it was decided to hold the next meeting of the Association at the Board of Trade rooms in Omaha, March 14th and 15th, 1879.

The President appointed Mr. Corbett a committee to arrange for rooms for the next meeting.

W. G. PIGMAN, Sec'y.

Read before the Southern Kentucky Convention.

Natural vs. Artificial Swarming.

BY JAMES ERWIN.

Although much has been said *pro* and *con* upon this subject, yet the rules and principles that govern natural swarming, and which must be kept in view in practicing artificial methods, are very imperfectly understood by the masses of bee-keepers. It is patent to every observing apiarist, that many of the methods of artificial swarming now in vogue among bee-keepers are not the best adapted to advance the interests of bee culture. Therefore, this question becomes one of considerable importance, and well deserves a place upon our list of questions for discussion, for it is only by interchange of opinion and a comparing of experience that bad methods can be rooted out and good ones established.

Of all the theories extant upon this subject, it may be said of the majority of them, they are more plausible than practical. We take the position that natural swarming is the safest and best for bee-keepers in general, and should be recommended to beginners; while the specialist, who by long study and close observation has made himself thoroughly acquainted with the internal economy of the hive and with the principles that control the bees in the most of, if not all of their actions (and to whom no advice is necessary), will decide for himself as to what system to adopt. Yet even the specialist, if he desires honey instead of increase, will find natural swarming, if properly controlled, to yield the best results. If he desires increase instead of honey, he will find a judicious system of artificial swarming to be the most satisfactory. We will now consider some of the advantages of natural swarming, compared with artificial methods.

In the first place, as a rule, bees swarm at the proper time, which in our locality is generally a few days before or in the beginning of the great flow of honey in the spring. It is very seldom that a swarm is cast on the close of a honey harvest, while in dividing, swarms are often made at very improper times; for instance, the spring harvest this year was cut short a month earlier than usual by cold and rain; colonies that were preparing to swarm, destroyed their queen cells, and killed off their drones in the latter part of May, seeming to have a fore knowledge of the long honey-drought that was to follow. Now, swarms made at this time (which in ordinary seasons would have done well) in the hands of careless or ignorant bee-keepers would have certainly perished. We made a few artificial swarms at this season, and it was only by heavy feeding that we were enabled to bring them through the summer to the fall harvest in good shape.

In the second place, natural swarms work with an energy and vigor unknown in artificial swarms (this, however, is owing to existing conditions and not to any difference in the disposition of the bees). We have found by observation that bees always do the very best thing that could be done under the circumstances, and it is only our ignorance of the surrounding conditions and circumstances under which they labor that disqualifies us for managing their concerns for them.

Let us now take a view of natural swarming, and see what admirable harmony prevails in the government of the hive, and how wonderfully the means are adapted to the end in view. We find that when the proper season has arrived, and the hive is crowded with bees and brood, weather fine, honey coming in plentifully, a large number of drones having been reared and queen cells started. In short, everything being in the very best possible condition for starting a new colony, that the old queen with a large majority of the working force of the colony rush forth from the hive, and after clustering in some convenient place, send forth scouts in search of a new home, these bees are fat and full of honey and are already secreting the wax with which to build the combs in their new hive. This is why a natural swarm will build comb faster for the first day or two than an artificial swarm of the same size. We find that the drones with commendable prudence and foresight (being naturally of a luxurious and indolent disposition and not disposed to labor for a living) refuse to follow the wanderers to their new home, where honey is scarce and work is plenty, but return to the old hive where they are needed to generate the heat necessary to hatch the brood. Now that the hive has been denuded of most of its population, a large body of drones at this time is very useful and where natural swarming is allowed a moderate proportion of drones is never detrimental to the prosperity of the colony, as the heat generated by them enables more workers to take the field, and as soon as they are no longer needed they are mercilessly destroyed by the workers. One objection urged against natural swarming is the time lost in egg laying, from the time the old queen leaves

with the swarm till the young queen becomes fertilized, but as the young queens begin to hatch on the seventh or eighth day after the old queen leaves, the time gained by artificial methods cannot be more than six days where queen cells are furnished the new swarms, nor more than two weeks where laying queens are furnished. But remember these laying queens cost something, and again the superiority of these queens reared by natural process will more than compensate for the loss in time, and as this loss in time is just at the very best of the honey season, when it is well known that bees will gather honey faster while rearing a queen than if they had a laying queen, because they have no young brood to feed and more workers are sent to the field. We think, therefore, that where honey is the principal object in view this objection is groundless.

Another objection to natural swarming, is the danger of losing swarms by their going to the woods, but if the wings of all the queens are clipped as soon as they begin to lay, this objection, as well as several others is obviated. Where it is desired to prevent increase and secure the greatest yield of honey we would advise the following plan: Keep one wing of every queen clipped; have the hives sitting on the ground with the alighting board resting on the ground in front, keep all weeds and grass cleared away from the hive, then when a swarm issues, go to the hive it came from and cage the queen which will be found on the ground in front of the hive, remove the old hive two feet from the old stand, throw a cloth over it and place your new hive in its stead, then when the swarm returns and begins to rush into the new hive uncage the queen and let her enter with the swarm and your bees have hived themselves.

If you think there is danger of the old colony casting a second swarm, you may open it in four days and cut out all queen cells but one, or if it is choice stock, you may take out a couple of combs of capped brood (containing a queen cell) with the adhering bees and form a nucleus colony, in order to have reserved queens when needed. This will prevent after swarms from issuing. As soon as the young queen in the removed colony begins to lay, open the new hive and remove the old queen, fumigate both colonies, then place a top story on the new swarm (which by this time will have its brood-story filled) and lift the combs out of the old hive, queen, bees and all, and hang them in the top story on the new swarm (placing it half way between the two) and add a third story to accommodate the united colonies, and if necessary a fourth. Thus you get a doubly strong colony right at the height of the honey harvest, also young queen without any loss of time through queenlessness as the old queen will have filled the new hive with brood by the time the young queen gets to laying. If you shade them, give plenty of ventilation, and keep the honey extracted, they will not be inclined to swarm any more that season. By practicing this method you keep down the increase and renew your queens every year, which is a very great advantage as these young queens will lay prodigiously



the first season from being placed in an extra strong colony. As it is well known that a queen placed in a very strong colony will lay a great many more eggs than the same queen placed in a weak colony; brood rearing being always carried on just in proportion to the strength of the colony. The old queens removed being only one year old and tested will (if pure Italians) always find a ready market. If the apiarist desires both honey and increase, he may follow this plan, omitting the uniting process. If he desires to increase his number of colonies rapidly, he may find it best to practice some of the methods of artificial swarming recommended in the various books on bee culture. But he should always remember that increase of colonies is at the expense of the honey crop, and as bees only breed rapidly while honey is coming in, it will be necessary when running for increase, to feed whenever the bees are not gathering.

Southern Michigan Convention.

The bee-keepers' of Battle Creek and vicinity, met on the 6th inst., and organized an association called the "Southern Michigan Bee-keepers' Association." A Constitution and By-Laws were adopted. The following officers were elected: A. J. Robinson, President; Geo. M. Everts, Vice President; B. Salisbury, Secretary; L. Hume, Treasurer.

All persons interested in bee culture are invited to join this association.

B. SALISBURY, Sec.

Sanilac Co. (Mich.) Convention.

The Sanilac county Bee-keepers' Convention met pursuant to call. Mr. George Smith, of Amadori, was called to the chair, and Mr. James Anderson, of Washington, was elected Secretary. A treatise on modern and ancient apiculture by the chairman. The cause of some honey remaining in a liquid state while other honey granulates was discussed by James Madison, of Sanilac. A jar of honey produced in 1871 was presented by the chairman which was partly liquid. After a thorough discussion of the merits and cause of the above, the following resolutions were passed unanimously:

Resolved, That poor honey gathered late in the fall, is the prime cause of our late bee disasters in wintering.

Resolved, That all impure honey gathered late in autumn be removed and pure honey in frames be substituted.

Resolved, That we advise the apiarists of Sanilac county to secure their honey crop in the "prize box," and to ship in the "prize crate."

Resolved, That we recommend that honey be fed to stimulate early brood rearing; that our apiaries may be in the best possible condition to gather a full supply of honey from the early spring flowers, and thus enable us to exchange for that gathered later in the season.

Resolved, That our warmest thanks are due, and are hereby tendered to the AMERI-

CAN BEE JOURNAL, and to Mr. Ch. Dadant for the bold and fearless exposures of the adulterations of our "sweet of sweets."

The officers elected after effecting a permanent organization were as follows: President, George Smith, of Amadori; Vice President, James Madison, of Sanilac; Secretary, James Anderson, of Washington.

After some desultory conversation the meeting adjourned.

JAMES ANDERSON, Sec.

N. W. Ill. & S. W. Wis. Convention.

The North-western Illinois and Southwestern Wisconsin Bee-keepers' Association held their annual meeting at Shirland, Ill., on Dec. 17, 1878. After adopting their new constitution and by-laws, proceeded to elect their officers for the ensuing year as follows: H. W. Lee, President; Mrs. W. W. Kinney, Vice President; Levi Keister, Treasurer; Jonathan Stewart, Secretary. Owing to the inclemency of the weather the attendance was small, but the different localities of the district were pretty well represented.

Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL, gave a splendid address on the interesting subject of preparing and shipping our surplus honey to market; he also touched upon many other subjects which would only interest the persons who toil to procure one of the most delicious of sweets.

The next meeting will be held at H. W. Lee's, 2 miles north of Pecatonica, on the first Tuesday in May, 1879.

The Association voted thanks to the friends at and around Shirland for their kindness and splendid entertainment of the members of the Association.

JONATHAN STEWART, Sec.
Rock Run, Stephenson Co., Ill.

Addison Co. (Vt) Association.

The annual meeting of this Association was held in Middlebury, Jan. 30th and 31st. The President, J. E. Crane, called the meeting to order, which then proceeded to the election of officers for the ensuing year as follows: J. E. Crane, President; A. E. Manum, J. D. Clark, W. Newton, Vice Presidents; Dr. F. Bond, Secretary; A. C. Hooker, Treasurer.

A committee, consisting of Dr. F. Bond, E. P. Wolcott, A. E. Manum, H. L. Leonard and T. Brookins, was chosen to make arrangements.

The name of this association was changed to the "Champlain Valley Bee Keepers' Association."

Mr. Manum made some valuable statements of his experience in bee-keeping, and Mr. Crane followed him on the same subject.

Mr. Crane recommended the use of the Langstroth hive and Mr. Manum recommended his hive; samples of both were on exhibition.

The committee on exercises made the following report:

ESSAYS—Afternoon.—The condition and prospects of the honey interest, by Dr. F.

Bond; report as a delegate to National Convention, by A. E. Manum; adulteration of honey, by E. A. Hasseltine.

Mr. Crane made a statement on winter packing, claiming that he was the first one to use it, that he knew of. He said the object to be obtained was to keep the cold and damp out, and the heat in; for this purpose he used refuse wool, woolen cloths, saw dust or chaff, and that he did not think it would hurt the bees to leave the packing on all the summer. The main benefit of packing he said, was to secure an equable temperature during the changeable weather of spring, when the young bees were hatching, and which was necessary. In answer to an inquiry he said that his brood chambers contained 2,200 to 2,300 cubic inches.

Then followed a short discussion on comb foundation, brought out by the inquiry of E. J. Wolcott about its sagging. It was generally thought by old bee-keepers that it did not bother much in that way. It was further stated that 1 lb. would fill 5 frames.

Dr. Bond read an essay, which was very interesting and instructive.

A discussion regarding the size of sections followed, led by H. L. Leonard. The drift of the discussion and feeling of the members was in favor of the Addison county section.

Mr. Manum's paper was read next, which gave a detailed account of his trip to New York and his attendance at the National Convention, to which he was sent as a delegate.

E. A. Hasseltine read an essay on adulteration, which was followed by a discussion on the subject. Mr. Crane thought it would be well to apply to the next legislature to have a law passed prohibiting the sale of honey adulterated with glucose.

EVENING SESSION.

The evening session was commenced by a very able and interesting extemporaneous lecture on "The constituent qualities of different kinds of Sugar," by Prof. H. M. Seely, illustrated by samples of the different kinds. A vote of thanks was tendered the Professor.

The subject, "The best method of introducing queens," was next discussed. Mr. A. E. Manum led the discussion with a method which was novel to the most of those present. He recommended taking a virgin queen but a few hours old and placing her in the hive to which he wished to introduce her, and put her into a cell among the hatching brood, and seal her up, breaking a little hole in the back of the cell, and letting the bees dig her out. He stated that this method had proved very successful.

Mr. Newton stated that he had practiced this method and had introduced queens in this manner which were two days old.

After some discussion, Mr. H. L. Leonard was called on for his paper, "The best location for bee-keeping." He recommended a situation near a basswood forest, a small stream and good white clover and raspberry pasturage. He also made the statement that there was a vast difference in the amount of honey to be found in vegetables growing on strong or light soils; the difference being in favor of a strong soil.

The last discussion for the evening was "Shall we glass sections for market?" Mr. Geo. O. Goodhue, of Danville, Canada, P. Q., had a very neat sample of wood side section, with sides secured with rubber band; these bands cost 10 cents per 100 and the wood sides cost very much less than glass, besides there is a great saving of time in putting up honey in this manner, besides to the buyer there is a saving of considerable weight which is lost in the glass. Mr. Goodhue stated that he marketed a great deal of honey that way, last year, and that retailers preferred it, with the exception of a few boxes glassed to place in the window.

Mr. Crane said that honey had a nicer appearance behind glass; that there would always be a call for glassed sections, and that they would bring a higher price.

Dr. Bond said that when the novelty of glassed sections wore off, people would prefer to buy honey at 20 to 25 cents per pound rather than glass.

As a whole, the meeting seemed to be divided as to the different plans, though the wood sides were favorably looked upon.

FRIDAY MORNING.

Mr. Geo. O. Goodhue was called upon to state the conditions of bee-keeping in Canada, but he called upon Mr. Newton of Middlebury, but formerly of Canada, to do so. Mr. Newton stated that he thought that bee-keeping was not in so advanced a state in the Provinces, as in the States; most bee-keepers practicing the old methods, though they were alive to the importance of the new systems of bee-keeping and were fast adopting the customs of the States, led on by the various bee papers.

"The best method of securing surplus honey." The method of securing it from brood chamber was rejected at once as impracticable.

Mr. Crane and Mr. Manum gave their views as to the side, and top box methods and without going into the details of their arguments, we would say that they as a rule favored top boxes, though when brood chambers were high and narrow it was thought that side boxes would be beneficial.

Dr. Bond stated that he had once been enthusiastic on tiering up, that is placing one box above another, but had given it up as impracticable.

Mr. Crane said that was the usual experience.

The next question for discussion was "Feeding to induce bees to finish boxes, already commenced."

Mr. Crane stated that this might be done successfully if the feeding commenced as soon as the honey supply ceased, but if a few days intervened before commencing to feed, there was a loss. He had made an improvement on extracted honey for feeding. He took boxes partly filled, broke the caps, placed them inside the hive and let the bees extract their own honey.

Mr. Manum said he had pursued this method successfully only when the boxes were laid down flatwise, otherwise the bees would repair the broken cells and not extract the honey.

"Comb foundation" was recommended as a good thing. J. R. Jones stated that he cut



the foundation into three pieces, lapped them about one-half inch and pressed them together; he thought it made them stronger and less liable to sag.

The following committee was appointed to make honey exhibits at the County, State and other fairs: A. E. Manum, W. Newton, L. W. Peet and F. E. Smith.

On motion F. E. Smith, editor of the *Addison County Journal*, was chosen an honorary member, and also R. M. Bailey of the Middlebury *Register*.

The next question of "Has foul brood disappeared?" was settled in the affirmative, as far as those present were concerned; though it was stated that there was supposed to be some in Pittsburgh.

The last question, "Do dollar queens pay? and if so, who,—the producer or the purchaser?" It was, after discussion, decided that it paid neither.

It was voted to hold the May and annual meetings on the third Thursday of May next, and the third Thursday in January, 1880; the May meeting to hold one day, and the January meeting two days, with an evening session of the first day.

F. BOND, Sec.

Central Michigan Association.

A meeting of bee-keepers was held March 10th, at Lansing, Mich. Bee-keepers from Ingham and adjoining counties were present as well as several connected with the State Legislature. Prof. A. J. Cook called the meeting to order, and, after an organization was effected, constitution and by-laws adopted, the following were chosen as officers for one year:

President.—Rev. J. Ashworth, Lansing, Mich.

Vice President.—Dr. W. W. Root, Mason, Mich.

Secretary.—Frank Benton, State Agricultural College, Lansing, Mich.

Treasurer.—Mrs. L. B. Baker, Lansing, Mich.

The territory embraced is the counties of Ingham, Clinton, Eaton, Shiawassee and Livingston.

So far as examination had been made, only a few colonies properly prepared for winter had died.

The Secretary thought about nine-tenths of the value of straw or chaff packing was lost by having a board usually an inch board between the packing and the bees. He places the combs in an open frame-work made of wire or strips of wood and covered with cotton-cloth, which frame-work is then placed in a large dry-goods box and so packed as to leave six or more inches of dry chaff between each one of the six sides and the corresponding side of the outer box or case. The bees are thus kept warm and what is of vital importance perfectly dry, and will winter well with no further trouble if they have plenty of honey, are strong in numbers, and have a good queen.

A discussion as to the size of hives was had. Nearly all being satisfied with the Gallup frames which they were using.

Prof. Cook advised the frequent use of the extractor, it gave better chance for brood rearing, and produced more honey from each colony.

Adjourned to meet at the Capitol on May 10th, at 10 a.m. FRANK BENTON, Sec.

Business Matters.

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Three " "	3.50
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Five or more, " "	each, 1.00

If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

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A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of real imposition will be exposed, and such advertisements discontinued. No advertisement received for less than \$1.

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972 & 974 West Madison St. CHICAGO, ILL.

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When changing a post-office address, mention the old address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **\$7.50**. The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at \$2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on small margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent, more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our Cash customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**



Bingham Smoker Corner.

Bingham was the first and original inventor of smokers that would burn stove-wood. Bingham & Hetherington were the first and original inventors of the new uncapping knives. Bingham is the first and original inventor of the new cotton-burning smoker now in the patent office. This is the only practical rag-burning smoker, and we expect bee-keepers who find fuel for smokers troublesome to obtain, will adopt it. It burns anything combustible, and rags to perfection. It is filled in an instant and makes an immense smoke, and one filling lasts for hours. It does not throw sparks or drop fire even when pointed straight down. My smokers are the only ones which do not waste a particle of wood, and work equally well in all positions, whether the bellows is worked fast or slow. They are strong and light, work easily, and do not go out. The new rag-burners are the same size as the two larger wood-burners, and cost ten cents more. They burn fast or slow, as desired, and have no machinery to get out of order. Sent per mail, postpaid, on receipt of price :

Rag-burner—Large size, 2½ inch.....	\$1.85	
Standard, 2 inch.....	1.60	
Wood-burner—Large size.....	1.75	
Standard.....	1.50	
Small.....	1.00	
per half-dozen, each.....		50

Honey Knives are not sent by mail, but we send them per express on receipt of price :
With movable cap-catcher..... \$1.25
Plain.....
For honey knives or smokers, or for knife and smoker circulars, address,

BINGHAM & HETHERINGTON, Oneida, N.Y.

P. S.—Our contemporaries give us the begrudging compliment of copying our smokers as nearly as they dare to, and more nearly than the law allows. We caution purchasers against buying and using infringements.

P. S. No. 2.—Wonder who will be the first to copy my base-burning cotton-burner attachment! Sent postpaid on receipt of 25 cents and the diameter measure of any Bingham smoker. None sent unless ordered hereafter. Can be put in or taken out in an instant without change of parts. T. F. BINGHAM.

Lansing, Mich., March 4, 1879.

Friend Bingham :—As soon as Mr. Root's paper for February came out, I took one of your large sized smokers to the tanners to get it made over into a cold draft. Thought I, this will make a cool draft, cool fire tube, and will never blow out the fire to the discomfort of the bees, damage of quilts, &c. (not any decided objections to the old one, but not quite satisfactory to one who dreads burnt fingers and fire). Well, my new smoker did not please. I must often get a perfect volume of smoke instanter. This requires draft direct to the fire. You say that if your arrangement for told blast is not liked you can change it back, and you show your usual ingenuity in making the change so slight that you can change back. The old Bingham is still ahead. A. J. COOK.

In reference to Bingham smokers, I can say that they are the best ; I have tried the others also, and know whereof I speak.

F. A. SNELL.

Sunny Side, Napa Co., Cal., Feb. 7, 1879.

T. F. Bingham—Dear Sir : I have one of your smokers. It has done good work for one year, and is as good as new. Truly yours,

J. D. ENOS.

Grand View, Iowa, March 18, 1879.

Mr. T. F. Bingham : Enclosed please find \$1.75 for your extra large bellows smoker. I have sold the one I bought of you last summer, and must have another. I cannot manage the bees without one. I thought I would try one of the large ones this time, as I have 21 colonies of bees to attend to this season.

Mrs. A. B. WINDER.

Middlefield, N. Y., January 8, 1879.

Messrs. Bingham & Hetherington—Dear Sirs : We have been using your two-inch uncapping knife the past season. For rapidity and ease in operating they far exceed any knife I have ever used. Its shape and beveled edges make it perfect for uncapping uneven and crooked combs. It works equally well with either right or left stroke. We uncapped hundreds of combs in prize boxes, and both my associates and myself have come to the conclusion that they facilitate the labor fully one-half, and are perfection itself, leaving nothing more to be desired.

A. G. MURPHY.

Lansing, Mich., Feb. 11, 1879.

Mr. T. F. Bingham—Dear Sir : After a thorough trial of your honey knife here at the College, we pronounce it decidedly superior to any other that we have used, though we have several of the principal knives made in the United States. A. J. COOK.

Local Convention Directory.

	Time and Place of Meeting.
April 1.	Central Illinois, at Hillsboro, Ill.
3.	Northwestern O., at Napoleon, Henry Co., O.
May 1.	Southern Kentucky, at Gainesville, Ky.
5—N. W. Ill. and S. W. Wis., at Pecatonica, Ill.	5—N. W. Ill. and S. W. Wis., at Pecatonica, Ill.
6—Albany County, N. Y., at Clarksville, N. Y.	6—Albany County, N. Y., at Clarksville, N. Y.
6—Central Kentucky, at Lexington, Ky.	6—Central Kentucky, at Lexington, Ky.
6—West Ill. & Eastern Iowa, at Hamilton, Ill.	6—West Ill. & Eastern Iowa, at Hamilton, Ill.
8—Muscatine District, at Muscatine, Iowa.	8—Muscatine District, at Muscatine, Iowa.
10—Central Michigan, at Lansing, Mich.	10—Central Michigan, at Lansing, Mich.
12—Lancaster County, Pa., at Lancaster.	12—Lancaster County, Pa., at Lancaster.
15—Addison County, Vt., at Middlebury, Vt.	15—Addison County, Vt., at Middlebury, Vt.
21—North Missouri, at McCredy, Callaway Co.	21—North Missouri, at McCredy, Callaway Co.
28—North-Eastern Wisconsin, at Hartford, Wis.	28—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.	Oct. 21.—National Convention, at Chicago, Ill.

1880.
Feb. 11—Northeastern, at Utica, N. Y.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices :	
Choice Tested Italian Queens	\$2.50
Warranted " " "	1.50
Queens bred from Imported Mothers, but not warranted.....	1.00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

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From Fifteen to Thirty Dollars.

Send 3c. stamp for samples and price list after April 10. A success for bedding wire in foundation.

D. S. GIVEN, Hooperston, Ill.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

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50 Colonies of Italian Bees for sale cheap.

3-tf WM. J. ANDREWS, Columbia, Tenn.

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Prize Section Boxes and Frames at Low Prices. Any other pattern of Hive made to order. Send for Price List, to

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And also everything of any practical value in the Apiary : Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

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THE BLESSED BEES, BY JOHN ALLEN.

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Price, post-paid, \$1.00.

I scarcely looked up from the volume before I had scanned all its fascinating pages.—*Prof. A. J. Cook.*

It possesses such a fluent style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeping, from "Beginning" to "Marketing."—*American Bee Journal.*

The book is beautifully written, and commanded my undivided attention from the beginning to the end. I wish you had called it "The Romance of the Blessed Bees."—*Rev. L. L. Langstroth.*

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—*Mrs. Helen Hunt Jackson ("H. H.")*

Mr. Allen's book is a very clear and precise account of the way in which he succeeded in bee-keeping.—*Atlanta Monthly.*

The subject is deprived of all dryness and made as interesting as a story, by an accompanying narrative of personal effort, investigation, and industrious application.—*Harper's Magazine.*

His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register.*

* * * These chapters cannot fail to aid in diffusing a knowledge of bee-culture, and they will give, moreover, great pleasure to many readers who have not the remotest anticipation of undertaking bee-culture.—*Denver Tribune.*

The book is written in a clear, concise manner, and will hold the reader spell-bound until he has perused the last page.—*Bee-Keepers' Exchange.*

It is not only valuable, but interesting as a story.—*Detroit Post and Tribune.*

Conveys a good deal of information in a pleasant way.—*Cultivator and Country Gentleman.*

So delightfully written that no one can fail to enjoy it.—*N. Y. Churchman.*

For sale at the Bee Journal Office.

COMB FOUNDATION 45 cents per lb., in lots of 100 lbs. or more; less than 100 lbs., 50c. per lb. Also, Tested ITALIAN QUEENS for \$2.00. Satisfaction guaranteed.

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Well made and painted, furnished with metal rabbitts, and all wood-locked frames:

1 story 10 frame hive, complete.....	\$1.10
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Section boxes, 4½x4½x2, 250 for \$2.25; 500, \$4.00; 1,000, \$7.00. Prize Boxes, same price. Scovell Queen Cell Cages, for introducing queen cells, by mail, 3c. Scovell queen shipping cage, by mail, 6c.; per doz., 50c. H. SCOVELL, Columbus, Cherokee Co., Kans.

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Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and aparian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

4-tf H. H. BROWN, Light Street, Col. Co., Pa.

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Bee-keepers in Canada will save money by purchasing their supplies of J. A. WATERHOUSE, 4-5 165 East Avenue, Hamilton, Ont.

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**AN APIARY, cheap, choice location
FULL COLONIES, \$4 to \$8 for best.**

QUEENS, June, July, Aug., \$1.50.

Bingham Smokers and Knives, at regular prices.

HIVES, Improved Langstroth, complete. \$2.50.

GLASS, for honey boxes, &c., per bx, \$2.50.

Extractors, Section Boxes, Comb

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Patented January 9, 1878; re-issued July 9, 1878.

Burns anything, and never goes out.

In these days of progress, no one thing has added more to the success of bee-culture than the Bingham Smoker. Send on your money and our word for it, you will think it the best investment you have made. This is the ONLY PATENT bee smoker, and parties are cautioned against buying other DIRECT DRAFT smokers. Sent by mail, post-paid, on receipt of price. Many thousand are in use.

Hundreds of unsolicited letters testify to their superior excellence.

Extra Large size... 2½ inch,.....	\$1.75
The Standard "... 2 "	1.50
Small "... 1¾ "	1.00

Manufactured only by the inventor.

Send for Circular for Patent Honey Knife and Smoker. T. F. BINGHAM, Otsego, Mich.



ITALIAN QUEENS, 1879.

Price, April, May and June, each, \$3.00
July, August and September, " 2.00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color.

We shall have a shipment of fine TESTED Queens, from Italy, in April, selected for our Apiary.

No Circumstances. [2-tf] A. F. MOON, Rome, Ga.

CHEAP BEES,

In good, new, movable comb hives at \$5.00 each. Queens, hives, sections, &c., at reasonable prices, but not to give away. No chromos offered! Refer to 1st National Bank, and Express Agents.

E. A. GASTMAN, Decatur, Ill.

Send Address for List.

Herbert A. Burch & Co.'s Full Page.

Up with the Times.

Fully realizing the present low price of all commodities, and believing the low price of honey calls for the LOWEST RATES on APIARIAN SUPPLIES, we have reduced margins and cost of manufacturing, and invite the attention of bee-keepers to the following prices. The QUALITY of our goods is UNEXCELLED.

Italian Queens.

Untested Queens, each.....	\$1.00
" " per half dozen.....	5.75
" " dozen.....	11.50
Warranted " each.....	1.50
" " per half dozen.....	8.00
" " dozen.....	15.00
Tested " each.....	2.50
" " per half dozen.....	13.00
" " dozen.....	25.00
Selected tested Queens, each.....	3.50
Imported " "	4.50

Nucleus Colonies.

1 Nucleus Colony.....	\$3.00
6 " "	16.50
12 " "	30.00

Comb Foundation.

10 pounds, per lb.....	53 cts
25 " "	52 cts
50 " "	50 cts
100 " "	48 cts
500 " "	45 cts

Tin Separators.

For Langstroth frame per 100.....	\$2.50
" " 1000.....	24.00
" American " 100.....	2.00
" " 1000.....	18.00
" Novice Section " 100.....	2.00
" " 1000.....	18.50

Broad Frames.

Material complete, per 100.....	\$2.50
" 1000.....	22.00

Prize Boxes.

Material for Prize Boxes, per 1000.....	\$5.75
" " 2000 to 4000 "	5.50
" " 4000 to 8000 "	5.25
" " over 8000 "	5.00

Dovetailed Sections.

Material 4½x4¼ in.....per 1000.....	\$7.00
" " 2000 to 4000 "	6.75
" " 4000 to 8000 "	6.50

Our New Section.

Material complete.....per 1000.....	\$5.25
" " for 2000 to 4000 "	5.00
" " 4000 to 8000 "	4.75
" " over 8000 "	4.50

Bee Hives.

Langstroth hives 10 to 15, each.....	.80
" 15 " 25 "	.75
" 25 " 50 "	.70
" 50 " 100 "	.65

We furnish above with our new surplus arrangement, the best in use at these rates :

Material for Langstroth hives and Supers, complete, 10 to 15, each.....	.85
" 15 " 25 "	.80
" 25 " 50 "	.75
" 50 " 100 "	.70

Burch's Honey Extractor.....\$8.00

Wax Extractor.....3.25

Shipping Crates for prize boxes, per 100 9.00

Burch's Queen Cage, per dozen.....1.00

" " sample by mail....12

Sample of comb foundation, prize box or section, each..... .6

Above is a fair sample of our prices. We sell many other articles, however, which are useful to bee-keepers. Send for our descriptive 40-page Catalogue, which contains VALUABLE INFORMATION to all bee-keepers. After reading it, we feel sure that you will find to your advantage to order your SUPPLIES for the Apiary of

HERBERT A. BURCH & CO.,

South Haven, Mich.



1879. Queens!—Queens! 1879.

ITALIAN QUEENS!

CYPRIAN QUEENS!

HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by mail or express. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of aparian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each.....	\$2.00
" " per dozen.....	20.00
Warranted Queens, each.....	1.00
" " per dozen.....	11.00

IMPORTED QUEENS.

Cyprian, each.....	\$10.00
Hungarian, each.....	5.00
Italian, each.....	4.50

H. ALLEY,

Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640

ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unencumbered. Will trade the above described land either in part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, address, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago.

For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at \$5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. **1/2** Dollar and Tested Queens now ready to ship. Comb Foundation, Aparian Supplies, &c. Address, PAUL L. VIALLON, Bayou Goula, La.

BEE-KEEPERS' SUPPLIES.

A New Circular and Price-List free, now ready. New machinery to manufacture bee hives and supplies. Kept on hand, Queens and 2 and 3 frame nuclei. Dovetailed sections, \$6.00 per 1,000.

S. D. & M. A. BUELL, Union City, Mich.

Golden Italians.

We have them in their purity. Circulars and prices free. J. M. BROOKS & BRO.
Box 64, Columbus, Ind.

Look Here.

HART'S IMPROVED

LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, one thickness *tared roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to any size desired either for comb or extracted honey, breeding colonies or for a queen-examiner. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c.

Appleton, Wis., March 12, 1879.

A. H. HART.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free, to

CHAS. DADANT & SON,

Hamilton, Ill.

EGGS! EGGS!

FOR HATCHING.

Packed in new baskets for any distance, from First Premium Brown Leghorn and Black B. R. G. Bantams, mated for me by I. K. Felch, and purchased of him, who says they are as good as money can buy of him. A fair hatch guaranteed or order duplicated, at \$2.50 per 13, or \$4.00 for 25.

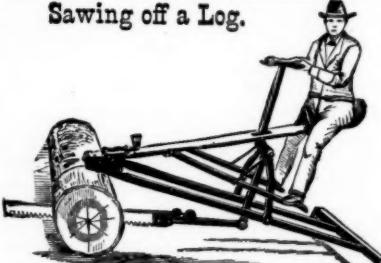
4-5 C. W. CANFIELD, Athens, Bradford Co., Pa.

Any one wanting an Experienced Bee Keeper, to take charge of or assist in the Apairy the coming season, will please address

DANIEL KEPLER, Napoleon, Ohio.

Improved Langstroth Hives, Section Boxes, Comb Foundation and Aparian supplies cheap. Wax wanted to work up on shares, or will pay market price. Send for price list. Work guaranteed. Olivet Apairy, A. D. BENHAM, Olivet, Eaton Co., Mich.

Sawing off a Log.



This SAW MACHINE is a wonderful invention. The weight of the man who is sawing does half of the work. It saws logs of any size, and will saw off a 2 foot log in 2 minutes. Circulars free. Address, Wm. GILES, 696 W. 6th St., Cincinnati, Ohio.



J. OATMAN & SONS' CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices :

1 to 20 lbs., per lb.....	55c.
25 to 45 "	53c.
50 to 90 "	52c.
100 to 400 "	50c.
500 to 900 "	48c.
1000 lbs. and upwards, special figures.	

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, \$16 $\frac{1}{2}$ or 12 $\frac{1}{2}$, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12 $\frac{1}{2}$ c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits ; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking your order now. Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each.....	\$1.00
" " per doz.....	11.00
Warranted Queens, as good as ordinary Tested, each.....	1.50
Ditto ditto ditto per doz.....	15.00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that large yields of honey are only obtained by having everything ready for securing it.

J. OATMAN & SONS,

Dundee, Kane Co., Ill.

FOR QUEENS, BEES, HIVES,

and all kinds of Supplies at bottom prices, ask for Price List.

B. B. BARNUM,

Louisville, Ky.

"QUINBY'S NEW BEE-KEEPING."

A revision of "Bee-Keeping Explained," with much new matter, and practical illustrations. Fully up to the times. Price, \$1.50.



Quinby Bellows Smoker,

Patented, and much improved. The best in market. Three sizes : by mail, \$1.00, \$1.50 and \$1.75. Send for circular of new supplies to

L. C. ROOT,

Mohawk, Herk. Co., N. Y.

EVERETT'S HONEY EXTRACTORS!

and everything useful pertaining to bee-culture : Italian Bees and Queens ; Hives and Sections, first class, and very low in price. Everything guaranteed as represented. Before purchasing, send your name and address, along with that of your bee-keeping friends, on a postal, and you will receive by return mail our new 16-page illustrated circular and price list, with valuable information.

Address, EVERETT BROS.,
107 Monroe Street, Toledo, Ohio.



THIS NEW ELASTIC TRUSS

Has a Pad differing from all others, is cup-shaped, with Self-adjusting Ball in center, adapts itself to all positions of the body, while the BALL in the cup PRESSES BACK THE INTESTINES AND PULLS FORWARD THE FINGER. With light pressure the Hernia is held securely day and night, and is easy, durable and cheap. Sent by mail. Circular free.

Eggleston Truss Co., Chicago, Ill.,

8y1

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceding volume. No proper effort will be spared in making it beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at \$3.00 per annum, in advance. Single copy, 30 cents. Address, JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

CLUBBING LIST.

We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture.....	\$2.50	\$2.25
Bee-Keepers' Magazine.....	\$3.00	\$2.50
The three Bee papers of U. S.	\$4.00	\$3.25
Bee-Keepers' Journal.....	\$3.00	\$2.50
All four - British and American.....	\$6.50	\$5.00
American Poultry Journal.....	\$2.75	\$2.50
American Agriculturist.....	\$3.00	\$2.50
Moore's Rural New Yorker.....	\$4.15	\$3.25
National Live Stock Journal.....	\$3.65	\$3.15
Prairie Farmer.....	\$3.50	\$3.15
Scientific American.....	\$4.90	\$4.35
Western Rural.....	\$3.50	\$3.15



Bingham & Hetherington HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not like any other honey knife ever made. They are superior in finish and temper, and do much more and better work. No one can afford to be without one. Plain, \$1.00; with movable cap-catcher, \$1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON, Abronria, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, $\frac{1}{2}$ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW

MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

Hives and Section Boxes.

Material for Langstroth Hives, with 9 Frames and 6 Cases for sections, in the flat \$1.00
Sample Hive, in the flat 1.25
Dovetail Section Boxes, any size under 6x6 in., in lots of 500 3.50
" " 1,000 6.50

Prize Boxes ready to nail at same prices. Send for Circular and Price-List. W. D. PARKER, Manufacturer, Defiance, Ohio.

2,000,000 Strawberry, Raspberry, Blackberry, Currant, Grape Vines, Asparagus Roots, Peach Trees.

100 SELECTED VARIETIES.

Genuine Stock. Quality best. Prices lowest. Send for free Catalogue to JOHN S. COLLINS, Moorestown, N.J.

1879.



1879.

REV. A. SALISBURY & HAYES, CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apriarian Supplies.

BEEES.

Reserved and Early Tested Queens.....	\$5.00
Queens, July to September.....	2.50
Colonies of 10 frames.....	9.00
" 12 "	10.00
Nucleus, 1 frame.....	4.00
Comb Foundation, 10 lbs. or over, per lb.....	50
Wax cleaned and worked for 25c. per lb., or on one-half shares.	
Send for Circular.	2-7

Italian Queen Bees FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address, D. P. MYERS, West Salem, Wayne Co., Ohio.

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of your bee-keeping neighbors) for our illustrated circular of Apriarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them FREE. Just send your name at once. Special attention given to rearing Italian Queens and Bees.

We have secured the general agency of the above machine.

The highest price paid for Beeswax.

1-tf J. C. & H. P. SAYLES, Hartford, Wis.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at \$5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen \$25.00

Untested Queens, " 10.00

Safe arrival guaranteed. Address,

D. STAPLES & SON, Columbia Apriary,
Columbia, Tenn.

ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for \$5.00

Two frame nucleus 2.50

All Queens reared in full colonies, from a choice

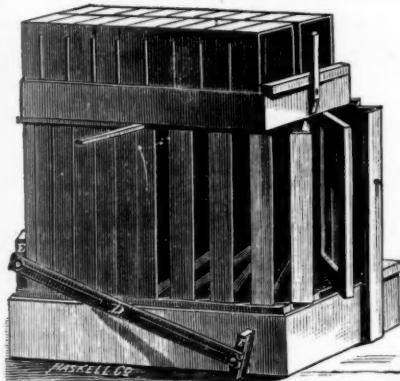
Imported Mother. HIRAM ROOP,

Carson City, Montcalm Co., Mich.



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ARMSTRONG'S



IMPROVED

CENTENNIAL BEE HIVE.

It is the best and most completely arranged hive for all general purposes now in existence. It has been thoroughly tested in every part, and is warranted to give entire satisfaction when given a fair trial. Here is what a practical bee-keeper, of Winchester, says of it:

Plattsburg Mo., March 13, 1879.

Mr. Elvin Armstrong, Jerseyville, Ill.:
Dear Sir:—I received your Improved Centennial Bee-Hive to-day, and after a careful examination of the same, and from the success I have had with the fifty-odd hives I bought of you last year, I can frankly say, that you have a first-class hive in every respect. I truly think a great deal of it on account of its simplicity and the ease with which I can handle my bees in it; and for out-door wintering I think it has no superior, for the past winter has been a very severe one in this locality (certainly a good test for any hive), and my bees have never come out in finer condition than they have this spring in your hives. Hoping you may be successful in introducing so valuable a hive through the country, I remain,

Yours truly, F. C. FROST.

Correspondence solicited. Send for descriptive circular.

Address, ELVIN ARMSTRONG,
Jerseyville, Illinois.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives**, **Honey Extractors**, **Artificial Comb**, **Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, written plainly, to A. I. Root, Medina, O.



JOYFUL News for Boys and Girls!
Young and Old!! A NEW INVENTION just patented for them, for Home use!

Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price \$5 to \$50.

Send Stamp and address

EPHRAIM BROWN, Lowell, Mass.

11y1

"Valentines' Italian Bee-Yard"

ESTABLISHED 1867!

Send for new Price-List of Imported and Home-Bred Queens, Comb Foundation, Hives, Section Boxes, Extractors and Bee-Keepers' Supplies. Also, high-class Poultry. Queen-breeding a specialty. First Premiums awarded us at St. Louis Exposition for 1879, on best Italian Bees and Honey.

VALENTINE & SON,
CARLINVILLE, ILL.

1-6

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6 :

Plain, sawed smooth, per 1,000	\$4.50
" sandpapered,	5.50
Dovetailed, sawed smooth, per 1,000	5.50
" sandpapered,	6.50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7.50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship.

Send for Price-List.

LEWIS & PARKS,

successors to G. B. LEWIS,
Watertown, Wis.

12-m6

J. E. MOORE'S PERFECTION HONEY BOX.

Patented May 7th, 1878.

CIRCULARS FREE,
Address, BYRON APIARY,



J. E. MOORE, SUP'T,
BYRON, N.Y.

BARNES' PATENT Foot-Power Machinery

CIRCULAR and SCROLLSAWS



Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making**. It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
June 1

Bees!...1879....Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. MCLEAN & SON, Culleoka, Maury Co., Tenn.

2-7



BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Fifty good Colonies of Common Bees, in boxes, for sale at \$3.50 each. Address,

CHAS. DADANT & SON,
Hamilton, Ill.

Material Ready to Nail!

For Prize Boxes, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 5x6 inches or less:

In lots of 500 to 5,000, per 1,000.....	\$7 00
" more than 5,000, per 1,000.....	6 00

Material for Cases, according to size; material for Improved California Boxes, sides put together, according to size. **SEYMOUR RUGGLES**, N. Y.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

Imported and home-bred Queens. Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address, 1-6 Dr. J. P. H. BROWN, Augusta, Ga.

ITALIAN BEES.

Price-current in gold, for the year 1879, of the Agricultural Establishment of L. R. Lambertenghi, Bergamo and Gorlago, Italy.

For the United States, North America.

A—Fecund Queens, pure race, with the necessary accompaniment of bees, post free to New York :	April	May	June	July and	August	September and	October
For an order of 1 Queen.....	\$8 50	\$8 00	\$8 50				
" " 2 "	each 7 00	6 50	6 00				
" " 3 "	" 6 00	5 50	5 00				
" " 4 "	" 5 00	4 50	4 00				
" " 5 "	" 4 00	3 50	3 00				
" " over 5 Queens.....	3 50	3 00	2 00				
B—Swarms, or colonies, post free to New York :							
For an order of 1 swarm or colony.....	11 00	10 50	9 50				
" " 2 to 5 colonies, each.....	9 00	8 00	7 00				
" " over 5 "	7 00	6 00	5 00				
C—Common hives, post free to N. Y.:							
For an order of 1.....	14 00		14 00				
" " 2 to 5, each.....	12 00		12 00				
" " over 5, "	10 00		10 00				
D—Hives with movable combs, post free to New York :							
For an order of 1.....	16 00		16 00				
" " from 2 to 5, each.....	14 00		14 00				
" " over 5, "	12 00		12 00				

The transport post free to New York, from thence continues to its destination at expense of the person who gives the order. For an order of ten articles an eleventh is included gratis, as a recompense in case of eventual loss during the voyage. An order letter A for more than 25 Queens at a time is entitled to a discount of per cent, and one for more than 50, a discount of 10 per cent. The necessary guarantee for the voyage and packing is included in the price, a guarantee for the purity and fertility of the Queens that I send, it being my interest to merit your commands. The order must be accompanied with its relative sum anticipated, or at least a half for those given a month or two back, paying the other half at the appointed date before the exportation. Postoffice orders, either international or consular, offer the easiest and surest way of payment. In order to fulfill everything according to the wish of those who honor me with their commands, I beg the same to forward me as early as possible their orders, with their precise address, that of the post office, and nearest railway station or sea port, indicating at the same time the commission agent with whom they wish their goods to be left on their arrival in New York, to be reforwarded to their destination. With profound respect,

LUIGI RUGGERO LAMBERTENGHI.

Sweet Home Raspberry.

For COMFORT and HEALTH every garden should supply its owner with FRUIT; it is the foundation and beginning of happiness; it makes the countenance brighter, the world look gay, delightful and sunny; it makes happy homes, and healthy, cheerful people to live in them.

For hardiness, easy culture, quality of fruit, early and constant bearing, there is none that equals the Black Raspberry. It has been wonderfully improved by cultivation and crossing.

In 1873 I produced a seedling of Lum's Everbearing, which is still growing near my front gate. In 1874 and since, it has been admired by all visitors for the great amount and large size of its fruit.

Having the peculiar sweetness of its parent, it makes the most delicious berry for the table, preserving or jelly, being the deepest berry grown, makes it the best for canning and drying.

The SWEET HOME canes grow upright and stocky; but few thorns : increased from tips ; never winter-killed ; ripens two weeks later than Doolittle, and continues till blackberries ripen ; the fruit continues to hold its large size till the last picking. It bears such immense crops that the canes must be cut thoroughly back or tied up, or it will be as one fruit man said when holding it, " Loaded to the ground." We have picked from one cane of SWEET HOME, one thousand and fifty (1,050) berries, filling three quarts ; there were two more canes from the same root.

The clusters, as seen in the colored fruit-plate of SWEET HOME, average from 25 to 30 berries each. Their large size and firmness, together with the closeness of the berries in a cluster on the outside of the bush, enables me to get them picked for one cent less per quart than other varieties.

The editor of THE AMERICAN BEE JOURNAL, or any of the following persons, may be written to in reference to my reliability, or qualities of SWEET HOME :

Being a general merchant of New Boston, Ill., I have handled many varieties of raspberries. The past season I have sold, among others, the SWEET HOME, and found it superior to all others in size, flavor and firmness. Their firmness will enable them to be shipped a long distance with less shrinkage and keep one day longer in market than any other variety we have handled. I have spoken for Mr. Palmer's whole crop of SWEET HOME raspberries next year.

C. A. BALLARD.

We, the undersigned, members of the New Boston Cornet Band, on the 4th of July last visited the berry plantation of Sweet Home ; we there saw many varieties, our eyes and appetites doing justice to test their variations. The stocky canes of Sweet Home were loaded to the ground with the largest, best flavored berries we ever saw.

O. H. BELL, F. SWERTFEGER, W. B. DANFORD, ED. ALYE, MOZART DANFORD, GEO. SIGNOR, WM. HUNT, J. BELL, LLOYD MYERS.

I grow and handle fruit ; have ordered 1,000 plants of SWEET HOME. Their flavor, size, firmness and freshness from bleeding (the less bleeding of juice the longer they will keep from souring), will make them very valuable for shipping and handling.

CAPT. H. B. SOUTHDARD.

T. McWhorter, of Aledo Nursery, this county, in his circulars of nursery stock says : " Sweet Home—Valueable ; well tested on my own grounds."

The Sweet Home raspberry has done finely ; bush grows thrifty and stocky; berries very firm; ripens from 12 to 15 of July ; size decidedly larger than any other black cap I have seen. Should call it a fine berry for marketing.

E. W. BREWSTER.

Kingston, Plymouth Co., Mass.

The following is from the father of bee-keeping in this country : " I have from 200 to 300 colonies of bees, also considerable fruit :

I never saw the Sweet Home equaled in size of berry. The bushes were loaded to the ground with the most delicious finely flavored berry I ever ate. I shall set largely of Sweet Home this season.

Eliza, Mercer Co., Ill.

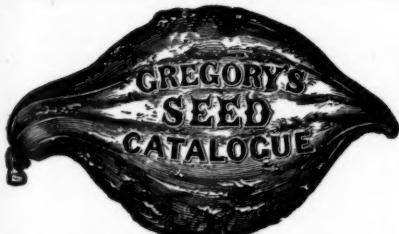
JESSE BOGART.

We sold all the plants we had to spare last season, and now offer you by mail 1 strong plant for 25¢; 12 for \$1.50; 100 for \$6.00; by express, 1,000 for \$30. Colored Fruit-Plate 2x12 of Sweet Home for 20¢.

Doolittle, Mammoth Cluster, Miami, Seneca, Davidson's Thornless, Golden Thornless, etc. each, 60¢ per dozen, by mail ; \$1.50 per 100, \$10.00 per 1,000 by express.

Ganargua, Lum's Overbearer, Philadelphia, Branwyn, Turner, 15c. each, \$1.00 per dozen, by mail.

Address, D. D. PALMER, New Boston, Ill.



My annual Catalogue of Vegetable and Flower Seed for 1879, rich in engravings, from original photographs, will be sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on each package. All seeds are sent to be both fresh and true to name; so far that should it prove otherwise, I will refund the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain. **New vegetables a specialty.**

JAMES H. GREGORY,
Marblehead, Mass.

1865.— **THE HONEY HOUSE.** —1879.
C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

Market price for Beeswax.

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS' OUTFITS.
ORDERS BY MAIL SOLICITED.

ITALIAN BEES FOR 1879.

This is my 13th year with Italians. I will sell pure Queened Queens for \$3.00, till July 1st. Full Colonies in Langstroth hives, \$10 to \$12.00. Nuclei, with 3 full frames, \$6.00. Several leading varieties of Poultry. No dollar or unwarranted queens.

R. M. ARGO, Lowell, Ky.



Pure Italian Queens and Colonies
For Sale for 1879.

—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md.

25

L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 50, Paris. Price 7 francs.

COFFINBERRY'S Excelsior Honey Extractor, FOR EITHER TWO OR THREE FRAMES.

This Extractor takes any size of frame smaller than 12x20. Larger sizes will be made to order if required. For extracting 2 frames at one time, add \$2.00. It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does not revolve in the honey below, even when 60 or 70 lbs. may be there.

Comb Basket having vertical sides insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both ease of operation and effective work.

The handles are strong and attached near the centre, for ease in carrying.

The tin covers close the machine up tightly, keeping it free from dust and dirt when not in use.

It is provided with a small comb holder for extracting pieces of comb or partly-filled sections.

It has a strainer elevated some three inches above the bottom of the extractor, and entirely covering the canal leading to the honey-gate. This "strainer" can be instantly removed, cleaned and replaced.

The honey receptacle has capacity for 60 or 70 lbs of honey, where it may be allowed to ripen before drawing off, if desired.

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the **cheapest** thoroughly practical machine ever yet made.

The Comb Basket of this Extractor is made to take either two or three combs, and either will be furnished at the same **Price, \$12.00**, crated and delivered at railroad depot or express office.

C. C. COFFINBERRY, Chicago.

1879.

Italian Queens, Nuclei and Colonies,

Bred and reared in full strong Colonies. Queens and Drones from selected mothers.

Single Queen, Tested.....\$2.00
Single Queen (laying), Untested.....1.00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1 Langstroth frame Nucleus.....	\$2.00
2 " " " "	2.50
3 " " " "	3.00
8 " " " "	6.00
Colony.....	

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O. Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.
Address, W. P. HENDERSON,
3-6 Murfreesboro, Tenn.

FANCY POULTRY to EXCHANGE for ITALIAN QUEENS.—We will exchange eggs of Dark Brahmans, P. Cochins, Houdmans and Br. Leghorns (all prize strains), for good Tested Queens—13 eggs for each Queen, 100 wanted. Eggs and Queens for sale. Address J. T. SCOTT & BRO., Prop'r's "Old Chickamauga" Poultry Yards, Crawfish Springs, Walker Co., Ga.



READY FOR BUSINESS!

We are glad to inform our friends that our new shop is now arranged and we are ready for business. Our facilities are unsurpassed for doing good work cheaply and quickly.

OUR NEW MONTHLY,

The Bee-Keepers' Exchange,

is already popular, and its success is established. Its low price—75c. per year—brings it within the reach of all, and we propose to make it so useful and entertaining that no bee-keeper can afford to be without it. Sample copy free.

COMB FOUNDATION, DRONE OR WORKER CELLS.

We wish our friends to realize that we are absolutely HEADQUARTERS for Comb Foundation. We produce the most and best Comb Foundation of any one in the United States. We have testimonials from many who have tried different manufacturers, and our Foundation is pronounced the best. We now have over 9,000 lbs. of wax on hand that we paid a round price for, as we buy the best that can be obtained, and have it selected especially for us.

PRICES FOR 1879.

If we supply Foundation in odd quantities, or if cut to any size wanted, prices will be

1 to 25 pounds, per pound.....	55c
25 to 50 " "	53c
50 to 100 " "	52c
100 to 500 " "	50c
500 to 1000 " "	48c
1000 pounds or more.....	45c

If we get orders for foundation in 5, 10, 15, 25, 50 or 100 lb. boxes of 8x16 $\frac{1}{2}$ or 12x21 size, we will allow 10 per cent. discount from above prices. The above quotations are for the old style or lozenge-shaped cells.

FLAT-BOTTOMED FOUNDATION,

is a grand success. The thin, without wire, is warranted to average ten square feet to the pound, and will not lead a single bee to honey. It is too thin for the broad-nest. The flat-bottomed foundation, with wire incorporated, will average six square feet to the pound, and absolutely prevents all sagging, and can be given to large swarms, or can be handled very roughly after it is built out. Flat bottoms are not an experiment, but have been thoroughly tested. The bees accept this foundation just as fast as they do the old style.

We hereby inform the public, that the wired foundation is subject to two patents, and the thin flat-bottomed is subject to one patent. We have full privilege to make and sell this foundation, and shall handle it in large quantities.

We propose to keep the wired foundation in stock in following sizes: Sheets are 10x16, 10x18 $\frac{1}{4}$, 8 $\frac{1}{2}$ x16 $\frac{1}{2}$, 10 $\frac{1}{2}$ x14, 11 $\frac{1}{2}$ x12, and 12x19.

The new thin, for boxes, will be kept in sheets 12x12. Both kinds will be sold at following prices:

I to 25 pounds, per pound.....	70c.
25 to 50 " "	68c
50 to 100 " "	67c
100 to 500 " "	65c
500 to 1000 " "	63c
1000 pounds or more, " "	60c

HONEY BOXES.

Probably no one in the United States has better facilities than we, for making boxes rapidly and neatly. We can turn out 100,000 boxes a month, without difficulty. Our superiority is the Price and "X" nice, or 4 $\frac{1}{2}$ x 4 $\frac{1}{2}$ dovetailed box. These we will keep in stock. We plane all our boxes on the edges and on one side, and guarantee the work to be first class in every particular. Our aim is to "EXCEL," not under-sell. Send for our samples before you purchase.

PRICES FOR 1879.

Prize boxes to take 5x6 glass, either tall or low :	
Per 1,000 boxes.....	\$6.50
Per 5,000 boxes.....	31.25
Per 10,000 boxes.....	58.00

Parties must be very particular to give exact outside dimensions of their boxes, when they order.

Dovetailed sections 4 $\frac{1}{2}$ x4 $\frac{1}{2}$ will be supplied at exactly same prices as above.

For prices of everything needed in the Apiary, send for our new price-list, just out. Address,
J. H. NELLIS, Canajoharie, N. Y.

NEW, RARE OR CHOICE.

To Farmers and Gardeners.—I offer the following NEW, RARE or EXTRA CHOICE Vegetable Seed, postage paid by me :

Marblehead Early Sweet Corn.—Decidedly the earliest of all varieties of sweet corn. Per package, 15 cents.

Egyptian Sweet Corn.—Decidedly the sweetest of all varieties of white sweet corn. Per package, 10 cents; per pound, 35 cents.

Marblehead Mammoth Sweet Corn.—The largest of all varieties, and the earliest of the extra large kinds. Per package, 15 cents; per pint, 33 cts.

Longfellow's Yellow Field Corn.—Kernels are extra large, not suited to the South. Per package, 10 cents; per quart, 55 cents.

Early Amber Sugar Cane.—Samples of the sugar and full instructions for cultivation and making of sugar, sent with each lot. Per quarter pound, 16 cents; per pound, 45 cents.

Bastian's Early Blood Turnip Beet.—The best of the earlies; a great acquisition. Per ounce, 12 cents; per pound, \$1.25.

Hancock Early Peas.—The best cropper, and purest of all the extra early sorts. Per package, 10 cents; per quart, 60 cents.

Taliby's Cucumber. Large, very handsome and very prolific. A prize for any garden. Per package, 15 cents; per ounce, 35 cents.

Marblehead Champion Pole Beans.—15 cts. per package. The earliest of all varieties.

Kentucky Wonder Beans.—15 cents per package. Compared with scores of varieties, they have proved the most prolific.

Butman Squash.—20 cents per ounce; 10 cents per package.

Marblehead Squash.—20 cents per ounce; 10 cents per package.

Hubbard Squash.—20 cents per ounce.

As the original introducer of these three splendid winter varieties, I offer seed grown specially for purity.

Cocoanut Squash.—10 cents per package; 30 cents per ounce. Excellent in quality and an elegant ornament for the parlor. Very prolific.

Danvers Carrot.—\$1.50 per pound; 15 cents per ounce. Forty tons have been raised to the acre.

SII'S Melon.—A Canteloupe; sweet, spicy, delicious. Per ounce, 20 cents.

Vick's Early.—20 cents per ounce; 10 cents per package. The best of all the early Water Melons.

Excelsior Melon.—25 cents per ounce; 10 cents per package. Has been raised in Massachusetts to weight 55 pounds. Quality excellent.

White Egg Turnip.—The new American turnip. Early, large and of excellent quality. Per oz., 15 cts.

My Seed Catalogue, treating of all the above varieties in detail, and an immense collection of Vegetable and Flower Seed, will be sent **FREE** to all who write for it. J. J. H. GREGORY, Marblehead, Mass.

SOMETHING NEW.

Scovell Valve Cut-Off Smoker.

The most complete thing in the smoker line out. The bellows have Scovell's Improved Top-Joint; the only valve about it is, by a simple arrangement, made to act as a cut-off for the draft; it is made of the best material; burns all kinds of fuel; has a perfect draft, and never sucks fire and ashes into the bellows. Size, 2 $\frac{1}{2}$ inches. Price, by mail, \$1.15. Manufactured by H. SCOVELL, Columbus, Cherokee Co., Kan.

Still they Come!

Another supply dealer to the front! with prices extremely low; quality of goods and workmanship excellent. Send postal card for prices of Langstroth Standard and other Hives, Frames, Tin Separators, Glass for Boxes, &c. Address,

W. D. WRIGHT, Knowlersville, Albany Co., N. Y.

ITALIAN BEES FOR SALE.

I will sell after April 1st to June 15th, 3-frame nuclei, with Tested Queen, \$4.00; each additional frame with bees and brood, 50c. Single tested Queen, \$2.50. All Queens are reared in full colonies.

JULIUS HOFFMAN, Fort Plain, Mont. Co., N. Y.

Comb Foundation,

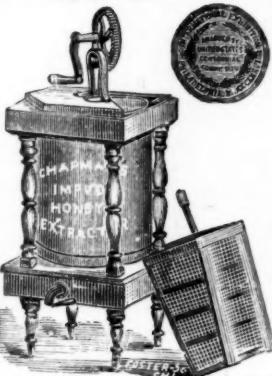
ANY SIZE, AT FIFTY CENTS PER POUND.
F. J. FARR, Independence, Mo.

CHAPMAN'S HONEY EXTRACTOR.


The Centennial Medal and Diploma awarded to this Extractor.

It is a geared machine with a stationary Can, and is easy to operate, strong and substantial.

The thinnest and most elastic curve - pointed HONEY KNIFE made, furnished with Extractors.



The best machine made, tight cover, faucet, and curved pointed knife, for \$10.00—any size frame. Send orders with size of frame, to

FRANK W. CHAPMAN, Morrison, Ill.,
Or AMERICAN BEE JOURNAL OFFICE.

The American Young Folks

In its 5th year, an Illustrated 16-Page Paper for Boys and Girls, Published by

HUDSON & EWING, TOPEKA, KANSAS.

Over 10,000 Teachers of Public Schools, from Pa. to Cal., pronounce it the best and cheapest paper for Boys and Girls. It is pure and elevating in character, bright, instructive and interesting. Sent postage paid, one year, to any address for 50c. Sample copy free.

SPERRY & CHANDLER'S NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,

Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

**GEORGE GRIMM,
OF JEFFERSON, WISCONSIN,**

hereby respectfully gives notice to the public, that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual low prices.

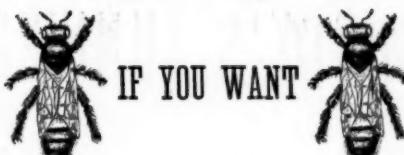
10-6

Foundation Machines.

12 inches wide.....	\$40 00
9 inches wide.....	30 00
6 inches wide.....	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine.

2-tf JOHN BOURGMEYER, Fond du Lac, Wis.



Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for less money than heretofore, send for our price-list and learn how 'tis done. We sell GLASS for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation, and many other things, all at astonishingly low prices.

Italian Queens, Nucleus Colonies and Full Colonies of Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices.

Our CIRCULAR contains much valuable information, and tells you the best methods of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apianer supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies.

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH & CO.,**
1-tf South Haven, Mich.

**Stabilimento D'Apicoltura
OF PIETRO PILATI.**

Strada Stefano 88, Bologna, Italy.

	April, May, June.	July, Aug.	Sept., Oct.
1 Queen.....	11.50 francs	9 50 francs.	6 francs.
6 ".....	66 " 55 "	35 "	12 "
12 ".....	130 " 108 "	68 "	12 "

I guarantee purity, prolificness and safe arrival. Should any die en route, they will be replaced. The value of a franc is 18½ cents in gold. I solicit American orders.

CLETHRA ALNIFOLIA,

(Or, SWEET PEPPER),

FOR BEE PASTURE.

Always known to be good by the Bees, but recently admitted to be the best by MAN. The honey is white, thick and very sweet. Perfectly hardy, blooms at 1 to 8 feet high, from July to Sept., when other flowers are scarce: grows where corn or the hazel-bush will; transplants safely in this latitude in April and May, or from October to December.

PRICES—Small layers, 6 to 12 inches long, by mail, \$1.50 per doz., or \$10.00 per 100; on blooming plants, 3 for \$1.00, or 12 for \$3.00. By express, for strong layers and blooming plants, \$3.00 per doz., \$10.00 per 100, or \$50.00 per 1,000. Remit by bank check on some Boston bank, postal order on postmaster at Boston, or registered letter. Illustrated Circular and Reading Nursery Catalogue free by mail. Address,

34 JACOB W. MANNING, Reading, Mass.



SHUCK'S UNIVERSAL BEE HIVE.

Claims the Attention
engaged or inter-



tion of every one
ested in Bees.

THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use; double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbits) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, \$5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878.

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says: "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says: "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw; in fact, it seems to be all that could be desired." It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address,

J. M. SHUCK,

DES MOINES, IOWA.